London Guarantee Building
Michigan Avenue at Wacker Drive

The Home of
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Monthly Trade Publication
Published by
Dana Chase Publications
Address
360 North Michigan Avenue
Chicago 1

Telephone.....Central 1229

The only independently published trade publication devoted exclusively to Porcelain Enameling and Ceramic Finishing.

Editorial content includes Technical Information, Plant and Processing Articles, Educational Features, and complete Industry News coverage, both editorially and pictorially.

Free-controlled Circulation to those intimately connected with the Ceramic Finishing Industry.

To Others —

Subscription Price...$3.00 per year
Foreign Subscription
Price (U.S. Funds) $5.00 per year

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by Dana Chase Publications

Printed in U.S.A.

November · 1945

Vol. 2 No. 11

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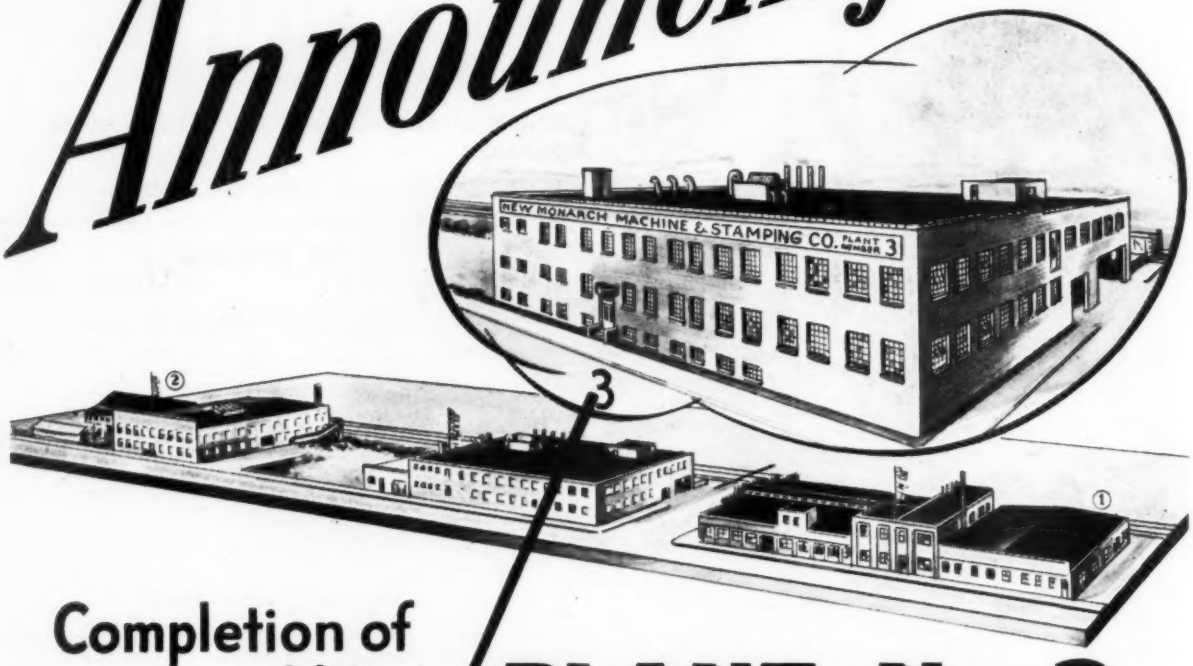
finish

ceramic finishes on metal

Announcing



Completion of our new addition... PLANT No. 3

Modern throughout, fully equipped and geared to mass production of pressed steel products, the new plant is of fireproof construction, with full basement and 2 floors, giving additional floor space of 75,000 sq. ft.

The building will house the engineering department, new die shop and die storage vaults, special manufacturing and assembly lines, special finishing sections, electrical drying ovens and the shipping department.

This expansive, new plant is New Monarch's testimony to their unbounded faith in the future — the fulfillment of their pledge for continued improvement in facilities and service in the better, post-war world.

Ask to have a New Monarch engineer help you with your various stamping problems.

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THE Finish Line

WHAT IS DEMAND? — For months on end we have heard and read glowing reports of the vast pent-up demand for consumer goods. There have been surveys galore, and *finish* has presented many of them. They all point to the greatest demand in history for all kinds of consumer goods. High on the list in most surveys are the major items of consumer "durable goods" which take a high percentage of our industry's output. It would be hard to find a progressive manufacturer who is not optimistic, and who is not planning to produce in greater quantities than ever before.

There is one danger to our industry, and industry in general, which may result from this high degree of optimism. This is the interpretation that may be placed on "demand" — whether it is considered that demand will be automatic or will require development and promotion as in the past.

Mr. Smith presents an "if"

A clinic on distribution was sponsored recently by the National Association of Manufacturers and the Illinois Manufacturers Association. Included in the problems discussed was the possible effect of wartime advertising describing the dream products of the future, products that may or may not appear. It was felt that claims for "theoretical" products build resistance barriers for the honest products that may be expected.

As one speaker put it, "Let's not mistake curiosity for interest. If curiosity led to sales one of the fastest selling products in the United States would be the steam shovel."

Mr. Everett R. Smith, director of research for McFadden Publications, said that theoretically there is a vast potential demand that should keep our industries busy — *if we can sell these products to the public.*

Mr. Brown states his views

In a talk before the Eastern Enamelers Club Mr. H. B. Brown, merchandise manager of Philco Corporation, (This issue of *finish)* said: "We have been hearing too much lately about the overwhelming demand that exists for all kinds of merchandise and about the many billions of dollars in the hands of the public, ready for spending. Also about the millions of electric refrigerators, washing machines etc. . . . that the public is going to buy right this minute. . . .

"All of these millions of manufactured items still *must be sold* and sold intelligently. It is easily possible that too many manufacturers, wholesalers and retailers, dazed by the vast pent-up market that awaits them, are overlooking the vitally important long haul distribution and planning, and marketing and selling. Right now, in my opinion, is when selling, well organized, efficient, constructive selling, becomes absolutely essential and indispensable.

An enameler's viewpoint

In Mr. Charles P. Lohman's article on architectural porcelain (this issue of *finish)* he says, "Up to now the porcelain enamel industry as a whole has never done much in the way of sales promotion. Part of the reason, perhaps, can be found in the fact that, until a few years ago, there was no compelling need for it. If a durable and color-fast finish was desired for steel, porcelain enamel was the only answer. In the years that just preceded the war, however, out-industry competition had begun to hurt a bit. Part of our market was slashed off by glass, another by aluminum and stainless steel; a third by synthetic enamels. This in spite of the evident fact that porcelain enamel was, in most respects, vastly superior to these materials. Why did it happen? A good deal of the answer can be found in sales promotion" . . . *(for competitive materials.)*

If the shoe fits

If we agree with Messrs. Smith and Brown that our postwar materials and products will not be "grabbed like hot cakes," but will require sound planning and selling — and — if we agree with Mr. Lohman that we have been lackadaisical in our sales promotion, then it's time to take inventory of our current plans. Fortunately, or "unfortunately," as competitive materials have taken a large slice from enameling "yardage" other new products have come along to keep production high, i.e., loss of refrigerator exteriors replaced by a higher production of washing machine tubs, architectural porcelain, etc.

We have never really had to "fight" for continued good business. If this were not true we would probably still be furnishing porcelain enamel for 50% of the refrigerator exteriors. *Figure that volume on any production chart!*

Yes, happy days are here again — we hope — but we should be willing to fight for them with sound selling and an adequate promotion program.

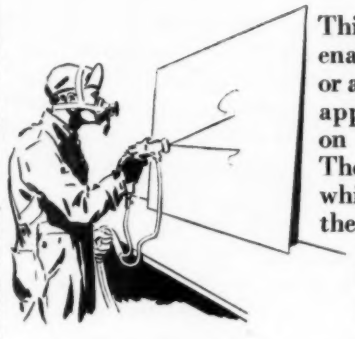
Dana Chase

Editor and Publisher

New Vitreous Enameling Base
Solves Many Shop Problems

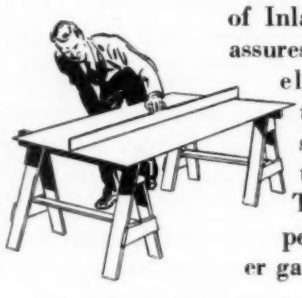
TI-NAMEL—Inland's new enameling alloy steel—eliminates the standard cobalt ground coat—cuts costs—improves quality.

Inland TI-NAMEL can be used for fabricating parts requiring the finest deep drawing steel. It permits drawing many parts heretofore formed and welded.



Thin cover coat enamels—white, or any color—are applied directly on TI-NAMEL. These thin coats, which eliminate the necessity for edging, have high reflectance.

One of the outstanding advantages of Inland TI-NAMEL is that it does not age-strain. Drawn shapes remain free from strain lines regardless of time lapse between rolling and final shop operations.



Increased sag resistance of Inland TI-NAMEL assures porcelain enameled ware that is truer to desired shape and of better appearance. This characteristic permits use of lighter gauge stock.

Pending patent applications on the new enameling process and products made thereby are owned jointly by Inland Steel Company and Titanium Alloy Manufacturing Company under trust agreement.

Write for the new TI-NAMEL Bulletin!

Principal Products: Bars • Structurals • Plates • Sheets • Strip • Tin Plate • Floor Plate Piling • Reinforcing Bars • Rails • Track Accessories

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38 South Dearborn Street, Chicago 3, Ill.

Sales Offices: Cincinnati • Detroit • Indianapolis • Kansas City • Milwaukee New York • St. Louis • St. Paul

INLAND TI-NAMEL

Low temperature ceramic finishes

for home appliances

A new type infra-red home heater unit employs alumina silicate coating

By Gilbert C. Close • LOS ANGELES CORRESPONDENT FOR FINISH

Exclusive feature finish

Use of a low temperature ceramic finish of the alumina silicate type in the production of infra-red home heaters will be a major postwar project of the Day and Night Manufacturing Company, Monrovia, California. Many of these heaters have already been built, but production has been limited to a pilot setup until more substantial equipment is available.

Experienced in the production of many types of heaters, company officials are enthusiastic concerning the possibilities of this new unit. Both the infra-red principle of heating and use of the low temperature ceramic finishing material are new innovations in this field. The combination works well together. Enough of the units have been turned out to prove their effectiveness and ready acceptance by the public.

The heating unit itself is a revolutionary product, incorporating new lines compatible with the trend in modern home decoration. It may be installed flush with the wall, or against the wall with an appropriate enclosure. Two sizes are available for single-room or two room heating. When used for heating two rooms, the unit is installed in the wall and flush with both sides. In effect, this latter type of installation is two distinct heaters, each with individual controls and heating units.

Vertical tube heating units are ceramic coated

Construction of the heating units is relatively simple. Verticle tubes, approximately 4 ft. long and 3 inches in diameter, on which the low temperature ceramic coating is used, are gas-fired at the bottom. Each tube is baffled by three staggered depressions on each side, and a steel strip through the center of the tube and in contact with the lowest portion of each depression. Thus, as the heat rises, it must pass back and forth around the center strip until its useable thermal capacity has been efficiently dissipated.

As the gas flame is completely isolated, the heat passing through the tube walls into the room is of the infra-red variety. This factor also eliminates the possibility of undesirable odors and dangerous fumes from a faulty burner. A concave metal surface behind the burner tubes reflects the heat outward into the room area. Controls for each burner tube are provided at the bottom of the unit at approximately baseboard height.

The equipment currently in use for production of the heaters is of a temporary nature and will soon be replaced by permanent installations now that the war is ended. During this initial production, however, a great deal has been learned concerning characteristics of equipment necessary for optimum application of the low temperature ceramic materials.

Infra-red tubes used for baking finish in pilot "furnace"

The furnace employed for baking the alumina silicate finish is radically different from those employed in application of the high temperature ceramic materials. Tubes, somewhat larger but identical in design to those used in the home heating units, line one side of the furnace chamber. Thus, heat entering the heating chamber is of the infra-red variety, and the atmosphere within the furnace is completely isolated from contact with the gas heating flames.

The pilot furnace now in use is approximately 2 ft. wide and 15 ft. in length. A hand operated conveyor is moved progressively at 20 minute intervals through two pre-heat chambers, then into the final baking chamber. Thermostats are used to maintain correct temperature. Due to its small size and the efficiency of the baffled, infra-red heating units, the furnace temperature may be raised from cold to operating condition within two hours. The indirect heating principle employed eliminates the factor of atmosphere contamination. The length of the heating tubes, extending from top to bottom of the heating chamber, and the nature of the infra-red heating rays, provides even temperature for baking the finish.

Standard spray equipment used

Application of the alumina silicate slip material to the tubes is by means of an ordinary spray gun and pressure pot operating at 80 to 90 lbs. pressure. Air lines leading to the pressure pot are carefully filtered to remove both oil and moisture from the compressed air medium.

Actual application of the coating as worked out and proved by the company should be of great interest to any one contemplating use of this type of finish. The coating material is received in the ready-mixed condition, and needs only dilution by water prior to use. Alumina silicate finishes of three different colors are used in preparing the slip for application to the tubes. The final mix consists of 17 gallons of green, 10 gallons of gray, 6 gallons of black and 5 gal-

A flush-type heater installed in an office wall. The infra-red type heating tubes are of alumina silicate coated steel and are individually controlled.

lons of water. These proportions provide proper viscosities for spraying, with a specific gravity range between 1.3 and 1.4.

Requires *clean* base metal

Absolute cleanliness of the metal prior to slip application is of utmost importance when using the alumina silicate materials. In this conjunction, it was discovered that no alkaline cleaner was entirely adequate. Therefore, the alkaline cleaning operation was eliminated in favor of a scaling operation accomplished by running the tubes through the furnace prior to application of the slip.

Several advantages accrue from this scaling operation. Oil and greases are effectively burned off, or reduced to a condition where they are easily removable during subsequent pickling. Scaling, though very slight due to the low furnace temperature (900°F.), is sufficient to loosen all rust and other surface oxides, and to provide a surface rough enough to offier excellent bonding characteristics.

Immediately after scaling and cooling, the tubes are transferred to a 30 per cent cold muriatic acid pickling solution. This solution, while effective, requires excessive time (approximately 20 minutes), and will be replaced by an 8 per cent sulphuric acid solution at 160° F. in the final production setup. From pickle the tubes go to rinse, thence to 20 minutes immersion in a hot neutralizer, and final rinse. This cleaning setup has proved very effective in producing the ultra-clean metal surface required with the low temperature finish material.

Extremely light application in two coats

Application of the slip for ground coat is just sufficient to wet the surface of the metal. Heavier coats will result in severe blistering during baking. The thickness of a single coating should not exceed .0006 inch, and may vary downward to .0003 inch.

The tubes are handled in an identical manner for both ground and finish coats. Proper pre-heating is an important factor in curing the alumina silicate materials. The temperature must be raised gradually from 250 to 300° F. to baking temperature.

The hand-operated furnace conveyor is in three sections, with two sections in the pre-heat portion of the furnace while the third section is in the baking chamber. Thus, all parts are preheated approximately 40 minutes before the actual bake begins. This interval may be cut slightly by the time required to load a section before it is inserted.

Finish "baked" at 900° F.

Baking is accomplished at 900° F. This is about 150° F. higher than recommended by the manufacturers of the finish, but the company's experience shows that more uniform color setup is secured at this temperature than at recommended temperatures. The higher temperatures, however, increase the danger of blistering if the slip is applied too thick.

E. F. Lorman, in charge of research on the low temperature ceramic ap-

plication project, has conducted many carefully controlled tests to compare alumina silicate finish with conventional high temperature materials. The results of these tests are extremely interesting, though slightly "offside" due to the fact that the low temperature ceramics are not intended to replace the high temperature finishes.

The alumina silicate finish is inferior to the high temperature ceramics in salt spray resistance, however superior in most instances to any organic materials available. Single coat applications will exhibit definite breakdown within 50 hours exposure, but two coat applications withstand 200 hour exposures, and weatherometer exposure equivalent to five years outdoor weathering.

The scratch resistance of this coating is definitely less than that exhibited by the high temperature materials due to the slightly porous nature of the baked finish. Effective heat resistance is in the neighborhood of 1100° F.

High impact and thermal shock resistance

The impact resistance of the finish is superior to that of the high temperature ceramics. Coated parts may be struck sharply without damage. It can also be bent through a considerable degree before the finish peals. Thermal shock resistance of the material is excellent. Heated parts may be plunged into cold water with no effect on the coating. This single factor indicates many uses for the low temperature materials.

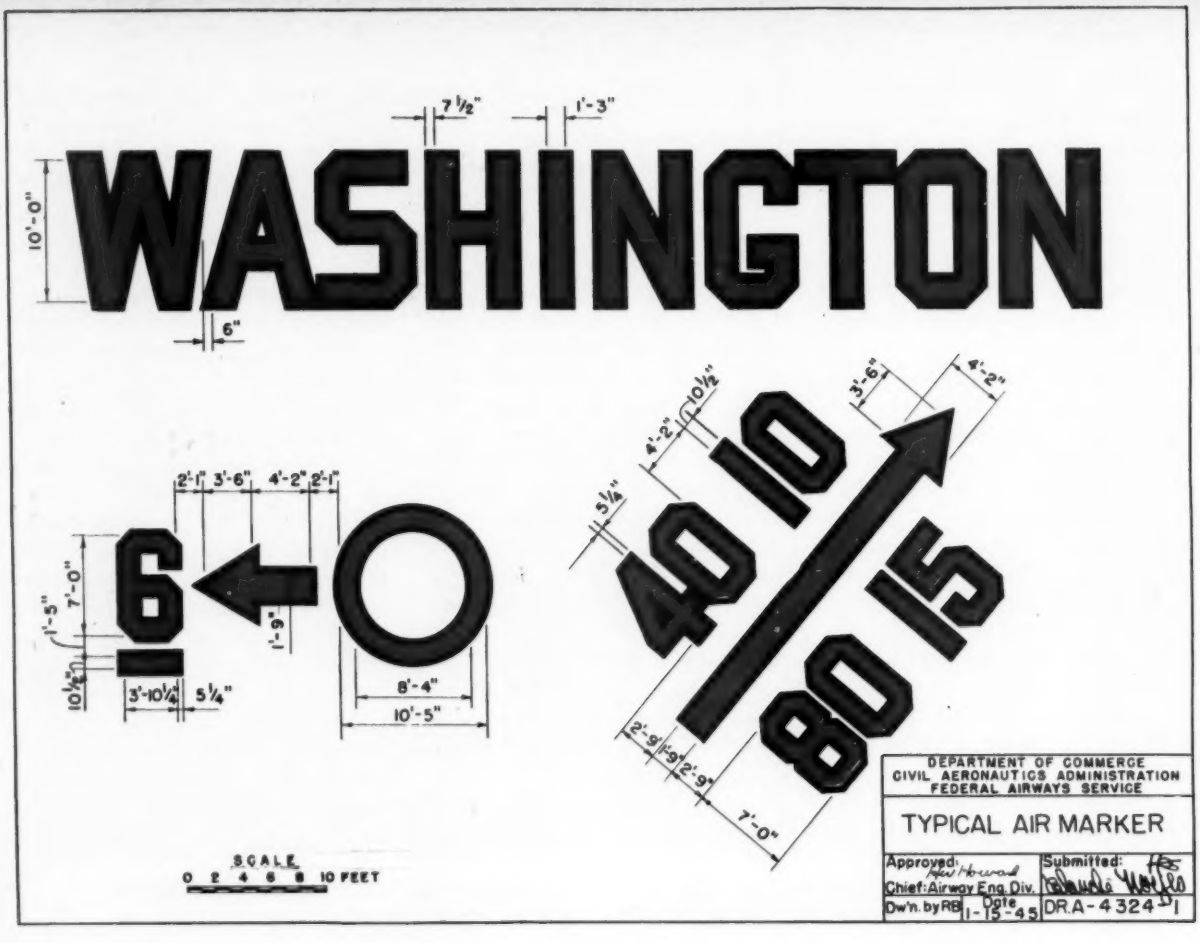
"The thermal shock resistance of the material makes it ideal for use on heaters that may be exposed to splashing water," Mr. Lorman explained. "Kitchen heaters and bathroom heaters are apt examples. Practically all domestic or industrial heaters are subject at one time or other to extreme degrees of thermal shock."

Coating defects due to faulty technique before or during application of the alumina silicate finish material are very similar to defects experienced with the high temperature materials. The most prevalent fault so far experienced is blistering caused by excessively thick applications of the slip. One trouble similar to copperheading was encountered, but was thought to have been caused by contamination in the barrel used to mix the materials.

"Our experience to date indicates that the alumina silicate coating is very effective for appliance products," Mr. Lorman summarized.

"I believe that a suitable finish program could be worked out in which an alumina silicate base coat could be used under an organic finish," he continued. "The slightly rough surface of the low temperature finish would offer an excellent bond for organic overcoats, and at the same time would materially increase effective resistance to many types of degenerative influences."

Exterior view of the furnace used for coating the heater tubes. This is a pilot setup and will be replaced by a large production unit of similar design.



Will tomorrow's air markers be porcelain enameled?

By Dana Chase • BASED ON AN INTERVIEW WITH *Blanche Noyes* • AIR MARKING SPECIALIST, AIRWAYS ENGINEERING DIVISION, CIVIL AERONAUTICS ADMINISTRATION, WASHINGTON, D. C.

AIR markers may mean nothing to the porcelain enameling industry — or they may mean a great deal — depending to a large extent on the aggressiveness of our enamelers in getting the story of porcelain enamel and its adaptability for air markers before those who are responsible for their purchase and installation. This is not as simple a problem as it may seem. If it were only necessary to get approval at some central location for a porcelain enameled steel marker, and then sell to a national organization, the work might be greatly simplified. But, this is not the case.

There will be thousands upon thousands of feet of air markers used and, in states having Aeronautics Commissions, the air marking programs may be somewhat centralized. In other instances the programs may be sponsored or controlled by local groups such as the C.A.P., Chambers of Commerce, Civic Clubs, American Legion Posts, etc. It is therefore important, if porcelain enamel is to be used extensively for this work, that representative installations be made as soon as possible and given widespread publicity.

The subject of air markers is one which has assumed a great deal of importance at this time because of the great increase in private and nonscheduled flying that is anticipated. It has been pointed out that air traffic today is in a similar position to what automobile traffic was around 1916. At that time the automoible industry was relatively small and merging with the carriage age. Aviation manufacturing, built, of course, on war demand, became a twenty billion dollar industry. Even the most optimistic do not contend that this figure can be approximated in postwar — but it is felt by some that from five to ten per cent of the industry's wartime volume may be expected. This would still mean an industry of sizeable magnitude.

Number of fliers has skyrocketed

Surveys indicate that the postwar market for personal airplanes will be

substantial. More than 200,000 persons have indicated that they expect to buy a plane immediately after the war, and those close to the industry feel that this number will greatly increase in time. Some estimates have indicated that the future increase will be about thirty per cent per year.

In 1940 there were 12,000 pilots. It has been estimated that there are now approximately four million people flying, and there are 122,884 licensed pilots.

Importance of air markers

An air marker will be to the people flying personal airplanes, and flights other than regularly scheduled commercial flights, what the highway marker is to the motorist. The motorist's problem, however, is very much simpler. All he has to do is follow a fixed route in an indicated direction for a specified number of miles to arrive at his expected destination. On the other hand, the pilot must be guided by his compass and no matter how well trained he may be, "wind direction" and other variables may change, causing him to lose his course. For instance, he may see some land mark that does not look familiar and start wandering. Or, he may run short of gasoline and if a safe landing place is not available a serious crash may result.

These mishaps do happen, and there is every reason to believe that with the expected increase in personal flying they will happen in increasing numbers unless proper precautions are taken. That is one reason why the C.A.A. has undertaken the sponsorship of an air marking program which will eliminate many of the navigational hazards.

Location and type of markers

Air markers in many instances will be placed on buildings where they have the proper size and type of roof, and are in suitable locations. They will also frequently be placed along highways or railroad tracks, as a pilot will often times pick up a highway or railroad right-of-way and follow it when he becomes dangerously lost, since he knows that either will eventually take him to some city where he can find an airport.

Markers in or near towns should contain the name of the community or town, with the latitude and longitude in degrees and minutes — the latitude and longitude being separated by an arrow pointing north. There should be an airport symbol pointing to the nearest good airport. This symbol is a circle with an arrow outside the circle pointing to the distance in miles to the port.

The proper symbol to be used to indicate an airport having a hard surfaced runway of at least 3,000 feet,

Blanche Noyes

plus five per cent of 3,000 feet for each 1,000 feet above sea level, is an arrow with the name of the airport enclosed in the arrow shaft and the distance in miles at the head of the arrow.

It has been found that school buildings lend themselves especially well to the installation of air markers for in many instances the roofs are large, flat and stand out when viewed from the air.

Where is the market?

We have referred to the future of flying, but it is interesting to know that at the present time there are 122,884 licensed pilots, without considering the thousands of military pilots who have found air markers valuable in the past. There are 24,000 certified aircraft. As this number increases it is only natural that there will be increasing demand for proper air marking.

No town is too large or too small for an air marker — and it is not likely that there ever will be too many markers. It is exceedingly important, of course, that the markers be designed along recommended lines so that they will assist the pilot — not confuse him. States having Aeronautics Commissions have reopened their air marker programs to assist in their development.

Ohio and Indiana have passed laws requiring a standard marker for every incorporated town.

Connecticut, North Carolina, Kansas, Texas, Nebraska and Tennessee have been installing painted air markers for some time, with North Carolina leading in number of markers.

In Missouri the State Department of Resources and Development have been working with various civic clubs.

State Aviation Commissions of Alabama, Pennsylvania, Massachusetts, South Carolina and Minnesota are behind the program.

In other communities the Civil Air Patrol is active in photographing locations and preparing for proper marking which may be sponsored by the C.A.P. or, in many instances, by local clubs or service organizations.

In Colorado, Captain Jerry L. Pettis, of the C.A.P. (and a Colorado minister), has done much to further the air marking program in that state.

What about materials?

Markers may be installed by *painting* them on roofs of buildings or on highways. They may be made of painted wood, and ground markers may be put in with concrete or crushed rock — or — they may be made of metal, porcelain enameled. It is also desirable, where possible, that markers be illuminated for nighttime fliers.

In states where markers must be placed in open spaces, a porcelain enameled steel marker, on a suitable raised structural framework, offers the ultimate in visibility, freedom of upkeep and long life. Many who have been working with the air marking problem feel that for locations on building roofs, etc., the enameled steel markers should be free of complicated design and planned for the greatest possible economy in manu-

to Page 54 —→

A workable system

for developing new products

presenting a product development system that has worked successfully for both wartime and peacetime products

By Ralph F. Bisbee • MANAGER, QUALITY CONTROL, WESTINGHOUSE ELECTRIC CORPORATION, MANSFIELD, OHIO

PART I.

IN presenting this outline to enameled product manufacturers, I wish to emphasize that the product development system which I will describe ties in very closely with any effective standardization program, and that it can be applied to any kind of product regardless of whether it is a porcelain enameled pan, a giant turbine, an electric refrigerator or an automobile. This was proved conclusively in our war product manufacturing.

System used for war products

The radical departure in the conversion from electrical appliances to highly complicated war products was a difficult undertaking. In our case, the war products we undertook to manufacture were entirely different from what we were accustomed to making. We are essentially a high speed, conveyorized sheet metal plant doing a lot of finishing, both organic and inorganic—approximately 4,500,000 square feet a month.

From this we shifted to the manufacture of some forty-two different types of war products, of which the following are only a few: Leakproof binoculars, telescopic gun sights for tanks, gun stabilizers, commutators, radio equipment, 37 MM armor piercing shot, insecticide dispensors and aircraft components such as wing flaps, stabilizers, elevators, engine mounts, etc. On all of these products the Product Development System was applied in the form in which it had been standardized and proved several years before Pearl Harbor. And, we found that it worked just as effectively in these instances as it did for the production of our peacetime products.

Teamwork necessary

In the words of C. L. Van Derau, works manager, Electric Appliance Division, "Electric appliances are highly competitive which means quality and cost must be kept under strict control. Production from the start must flow without interruption. This can not possibly be accomplished if problems of development occur at the start.

The author.

"In the development of a new product, it takes the coordinated effort of the entire organization to obtain the desired results. This means team work between sales, engineering, manufacturing and quality control divisions."

With this teamwork and the wholehearted backing of management the following results may be expected: (1) *Less development* on the production line, (2) *Increased production* at the start, (3) *Higher quality* at the start, (4) *Lower costs* at the start, and (5) *Complete understanding* between all interested departments at the start.

Experience gained with the tremendous variety of war items, all of them new and strange to us, has helped to improve the system and subjected it to the acid test of practicability.

Proof of the success of this system on war products is that on every one of our war contracts our *first* production delivered *good* products. The results can not be mere coincidence.

Outlining the system

The following will serve to review the system briefly, with a porcelain enameled range used as an example. There are sixteen steps that take place from the time of the inception of a new product until the time production actually starts. These can be visualized by following the flow chart headed "New Product Development System."

In the FIRST STEP the sales department requests a new product—or, in some cases, a revised or improved product.

STEP NO. 2 represents the issuing of a development order (called a 6-Order) by the engineering department to build a model.

STEP NO. 3 covers the designing and building of a model of either wood, clay or metal as requirements may dictate.

STEP NO. 4 covers the work of the manufacturing committee, whose purpose is to (a) Eliminate unnecessary development costs, (b) Start production in the shortest time possible, (c) Check the lowest manufacturing cost for scheduled activity, (d) Adapt the new product to available equipment

and (e) Improve quality of the product.

This committee is composed of the *Chief Methods Engineer*, who acts as permanent chairman; a *Product Representative*, who acts as permanent secretary, and the *Section Design Engineer*, who is responsible for the design of the equipment. The Section Engineer must explain to the group how the apparatus works, what the Underwriters' requirements are, the desired factory cost, the yearly activity and what competition is doing.

Another member of the committee is the *Tool Engineer*, who explains to the group the necessary tool requirements for making the parts as shown on the drawing. He suggests possible changes in design to reduce tooling cost without increasing factory cost. He may also recommend equipment.

Editor's Note:

A number of articles have been printed covering various phases of plant control, product development and product testing at Westinghouse Electric Corporation's Mansfield plant. We asked the author to prepare for Finish a detailed outline with suitable illustrations covering the complete new-product development system in successful use at the Westinghouse plant. This outline includes a description of the system from the earliest inception of a product idea to final testing of its shipping characteristics. Here's a "proved" plan for enameled product manufacturers.

The *Division Superintendent* is present to familiarize himself with the new product, and offer constructive criticisms on processes and methods.

There is also a *Time Study Department Representative.*

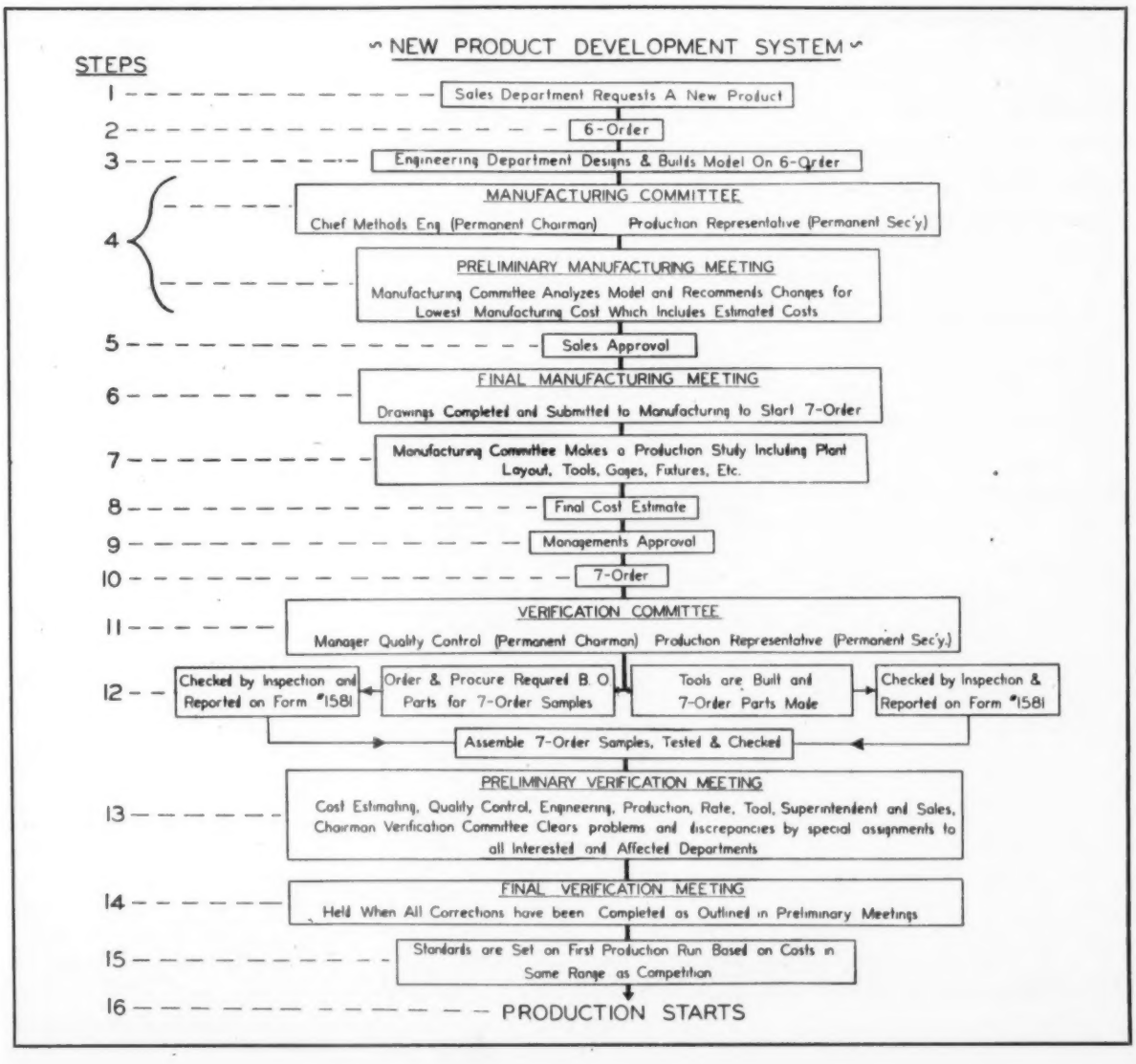
The *Division Quality Control Supervisor* is included to familiarize himself with the standards required and point out where gages and test equipment are necessary.

The *Quality Control Gage and Test Engineer* obtains a list of gages and test equipment necessary. After the first committee meeting he will estimate the cost of this equipment and follow through.

The final member of the committee is the *Cost Estimator*, who points out expensive materials, finishes and processes, and submits any cost details which the committee needs in order to make a choice of such materials and processes.

The manufacturing committee meets

At the first meeting of the manufacturing committee the following


NEW PRODUCT DEVELOPMENT SYSTEM
STEPS
1 Sales Department Requests A New Product
2 6-Order
3 Engineering Department Designs & Builds Model On 6-Order
4 MANUFACTURING COMMITTEE
Chief Methods Eng (Permanent Chairman) Production Representative (Permanent Sec'y)
PRELIMINARY MANUFACTURING MEETING
Manufacturing Committee Analyzes Model and Recommends Changes for Lowest Manufacturing Cost Which Includes Estimated Costs
5 Sales Approval
6 FINAL MANUFACTURING MEETING
Drawings Completed and Submitted to Manufacturing to Start 7-Order
7 Manufacturing Committee Makes a Production Study Including Plant Layout, Tools, Gages, Fixtures, Etc.
8 Final Cost Estimate
9 Managements Approval
10 7-Order
11 VERIFICATION COMMITTEE
Manager Quality Control (Permanent Chairman) Production Representative (Permanent Sec'y.)
12 Checked by Inspection and Reported on Form #1581
Order & Procure Required B. O. Parts for 7-Order Samples
Tools are Built and 7-Order Parts Made
Checked by Inspection & Reported on Form #1581
Assemble 7-Order Samples, Tested & Checked
13 PRELIMINARY VERIFICATION MEETING
Cost Estimating, Quality Control, Engineering, Production, Rate, Tool, Superintendent and Sales, Chairman Verification Committee Clears problems and discrepancies by special assignments to all Interested and Affected Departments
14 FINAL VERIFICATION MEETING
Held When All Corrections have been Completed as Outlined in Preliminary Meetings
15 Standards are Set on First Production Run Based on Costs in Same Range as Competition
16 PRODUCTION STARTS

main points are discussed: (a) Annual and peak production requirements, (b) Date for production to start, (c) Date Engineering information will be complete, (d) Desired factory costs and tool appropriation, (e) Determine if product supersedes an existing model.

Then comes *Design Study*. It must be determined what parts are to be bought outside or made in our own plant; which will be most satisfactory and economical — stamping, die casting, molding or etc. If parts are to be made in our plant, are they suitable for our equipment? The product must be studied for material types and metal gages, and whether modifications in design may result in serving the same purpose with less operations and tools. The amount of new or additional equipment must be determined, and whether multipurpose or single purpose equipment should be used for maximum production. Parts are compared with similar existing parts for interchangeability and it is then determined what gages are required for inspection. The "finish" requirements are then determined.

An *Assembly Study* is then made to set up the required number of subassemblies, determine the equipment to be used, determine the sequence in which assembly operations must be made, and to determine the best method of assembly — that is, welding, riveting, sheet metal screws, brazing or soldering.

At the completion of this study, assignments are made for the various members of the committee to follow. From these assignments the estimated cost is determined.

STEP NO. 5 represents *Sales Approval.* In this step the sales department reviews the preliminary estimate and approves it if it is satisfactory.

STEPS NO. 6 and NO. 7 are covered in the *Final Manufacturing Committee Meeting.* Drawings are completed and submitted to start the verification order (called a 7-Order.) Other problems include the following: (a) Make a decision on parts to be bought outside, (b) Approve engineering drawings, (c) Have methods engineer make final production study, (d) Have tool engineer make final tool estimate, and (e) Have works engineer and superintendent make final estimate on equipment costs. Also included are: (1) Have quality control gage and test engineer determine

The progress chart is posted in the committee chairman's office. If the works manager, sales or production depts. or any interested party want to determine the status of any new or revised product it tells them the complete story at a glance. The actual charts as posted use "color keys" instead of the cross-hatching shown in this illustration.

SAMPLES SUBMITTED
SAMPLES O.K.
SAMPLES REJECTED
REVIEW AT MEETING

VERIFICATION PROGRESS CHART

PRODUCT KG-64 Range

5 SAMPLES

PART DESCRIPTION	DRAWING OR STYLE	SAMPLES SUBMITTED 1 2 3 4	DISPOSITION OF SAMPLES 1 2 3 4	SOURCE	RELEASED FOR 7- ORDER	REMARKS
Washer	3437			A-11	5	
Name Plate	21261			74401	10	
Terminal Lug	229105			A-11	5	
Tubular Rivet	452580			A-11	5	
Eye Bolt	512994			A-11	5	
Fuse 15 Amp.	513500			D-41	10	
S.P. Lockwasher	580022			A-11	5	
Screw	580257			A-11	5	
[illegible]				D-41	10	
Light Socket	1212500			74400	5	
Insulator Bushing	1212871			74278	5	
Eyelet	1213840			B-31	5	
Eyelet	1213924			D-41	5	
Control Knob	1214756			74189	10	
P.L. & App. Rec.	1215166			74202	5	
Escutcheon	1215167			74212	5	
Vent Escut. Comp.	1215168			74214	5	
Name Plate	1212572			74102	10	

SUMMARY

PERCENT COMPLETE	10	20	30	40	50	60	70	80	90	100
TEST EQUIPMENT										
GAUGES										
B.O. PARTS										
WEST. PARTS										

TOTAL B.O. PARTS	222
TOTAL (W) PARTS	233
TOTAL PARTS	455

The manufacturing committee at work. In this instance they are working with an electric roaster. The same steps are involved as those for the electric range as outlined in this article.

gages and test equipment required and estimate cost, (2) Have packing engineer design and estimate cost of packing, and (3) The cost estimator collects costs from the previously mentioned individuals and makes production study summary.

In STEP NO. 8 — the final cost estimate is made.

STEP NO. 9 is to obtain Works Manager's approval.

STEP NO. 10 covers the issuing of a 7-Order to build verification samples.

STEP NO. 11 covers the work of the *Verification Committee.* This committee acts as a "preventative" rather than a "cure" and eliminates development at the start of production. Its main duties are to check and prove out material, parts, operations, assemblies, packing and design prior to production and to coordinate all departments to expedite this work.

It must be remembered at this point that no production has been released and will not be released until this committee holds the verification meeting. Thus, no large inventories of defective material are piled up that must be used with a sacrifice in quality and at the same time retard production due to development troubles on the production line.

Five samples are usually made for verification.

Verification committee personnel

The committee personnel consists of the Manager of Quality Control, Production Representative, Section Design Engineer, Tool Engineer, Methods Engineer, Division Manufacturing Superintendent, Division Sales Manager, Division Quality Control Supervisor and Packing Engineer. Other representatives are subject to call also.

The *Permanent Chairman* is the *Manager of Quality Control.* The main reason for this selection is that the Quality Control Department is responsible for the checking and proving of all materials bought outside, parts made in the factory, assembly of the complete product, and conducts proving tests prior to the verification meeting. He also is responsible for setting up standards to meet competition.

A *Service Department Representative* is present in order to familiarize himself with the product and to point out any chronic field troubles that might be corrected and to make other constructive suggestions.

A *Production Representative* is permanent secretary. He is responsible for following through on equipment, tools, materials and parts from the time the verification order is issued until the samples are complete and ready for the verification meeting.

In other words, the secretary coordinates production activities of every one concerned so that all possible delays are eliminated. He calls all preliminary and final verification meetings, covers these meetings with full minutes and sees that they are distributed to all interested parties.

Verification progress chart

to Page 54 →

This photo shows the verification committee in session with the author, manager of quality control, as chairman. The duties of this committee are to check and prove materials, parts, operations, assemblies, packing and design prior to production.

THE KITCHEN ARE "ON

PRODUCERS of kitchen equipment are missing few possibilities for the presentation of their complete kitchen ensembles. Their products are designed to interest every new home builder and to spread dissatisfaction among home makers whose kitchens are not up to date. And being up to date in the postwar sense calls for every possible kitchen convenience, careful arrangement of work centers and a final effect that is bright, cheerful and inviting.

The leading builders of cabinet equipment are missing no opportunity to tie in with appliance campaigns and national promotions to further the national interest in kitchen modernization. Representative designs from some of the leading producers are presented.

Top:
Designed by
American Central

Center:
Designed by
Kitchen Maid

Bottom:
Designed by
Coppes.

DESIGNERS THEIR TOES"

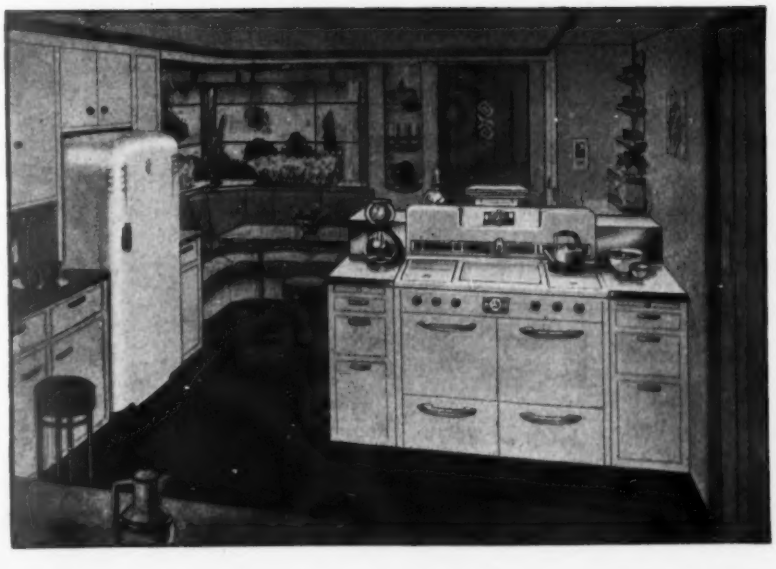
Is there a housewife who couldn't find at least one design in this group that would meet her ideas of a "dream kitchen"?

Yes, the designers and kitchen equipment producers are on their toes. If porcelain enamel is to appear on all the logical products in tomorrow's kitchens it means that the producers of porcelain enamel must also be on their toes. There is no spot in the home where porcelain enamel can be used more effectively, and it is up to our industry to see that it *is* used in all of its logical applications.

All gas ranges shown in the accompanying kitchens are "Magic Chefs." Illustrations are through the courtesy of American Stove Company.

Top:
Designed by
Youngstown Kitchens

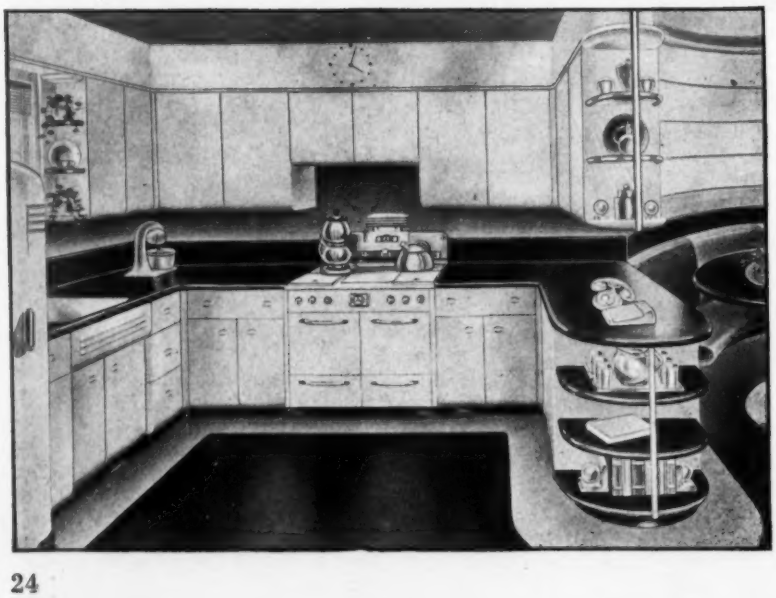
Center:
Designed by
Lyon Metal



Bottom:
Designed by
Whitehead

Designed by Coppes

Designed by Curtiss



Designed by Miller

Promoting architectural porcelain

requires joint action

specific suggestions for developing the architectural enamel market

Third of a series

By Charles P. Lohman • SALES MANAGER, PEMCO CORPORATION, BALTIMORE, MARYLAND

Exclusive feature finish

The purpose of everything said in the two preceding articles in this series is to give emphasis to the argument that the intensity of postwar competition and the enormous opportunities of the postwar market both indicate the advisability of cooperation where matters of common interest are concerned. Granting the conditions we have discussed will affect the course of our peacetime business, and assuming a mutual desire to maintain a demand for porcelain enamel at least sufficient to keep our expanded plants producing at full capacity, we come face to face with the most fundamental of these matters of common interest: How can we best promote the uses and advantages of porcelain enamel to the end that each of us will benefit in the years after the boom has subsided.

A problem of cooperation

We have tried to show that architects control the building construction market, that they tend to select nationally known products in preference to those that are known only locally and that, unless they accept porcelain enamel as a legitimate building material in the same general class as other similar-purpose materials, there is little likelihood that individual enamel companies will be able to expand their market beyond its prewar limits. Good as this particular market was, the contention here is that it will not be sufficient to insure stability at a production level commensurate with future needs. If we admit this to be the case, then we are forced to conclude that, for the sake of our own individual future prosperity, *porcelain enamel must be promoted nationally as a material rather than locally as a specialized product of a particular enameler.* Promoting porcelain enamel on a national scale is, therefore, a step in the marketing program of all of us which, being common to all, could be taken together with better over-all results, and at lower individual cost, than would be possible if it were attempted alone.

The Factor of Money

Considering the small size of the man-market group that controls the destinies of building materials, sales promotion should be relatively simple. (It would be but for the expense involved.) In an earlier article mention was made of the fact that, if enough money is lavished on sales promotion, it can force a demand for an inferior product and thus create a market where no natural market exists. In the case of certain competitive materials, however, there is both a natural market and a great deal of money to spend on developing it. Such being the case, this matter of money presents a problem mainly with respect to the amount enameling companies can allocate, individually, for sales promotion as compared with the funds available to outside companies for the same purpose. While it should not be necessary to match the money out-industry competitors spend on sales promotion dollar for dollar, it is necessary, at least, to match the effect their money produces.

A very excellent study of the postwar market for architectural porcelain enamel was made by the Market Research Committee of the P.E.I. some time ago. The Committee is continuing its work and, as time goes on, will, no doubt, make additional reports on this subject. Good as these studies are, however, it must be admitted that they can serve no beneficial purpose until, and unless, they are put to constructive use. In the early days of our fighting, it was common to hear the tragic expression, "too little, too late". With any sales promotion program, a similar condition of too little, too late, can prove equally tragic as far as winning the battle with competition is concerned. A boy can't do a man's job. The best program ever devised will fall short of its objective if it is not implemented by the necessary funds. By pooling money there is no doubt the industry can do a thorough job of sales promotion and that all contributing companies will benefit to a far greater extent than would be the case if such cooperation were lacking. In fact, it is probably safe to predict that, regardless of the superior merits of porcelain enamel, without such cooperation the very weight of out-industry promotion dollars will smother the dollars of enamel companies working alone.

Step One: Product Development

A realistic appreciation of all postwar conditions that will make it essential to expand the market for porcelain enamel focuses attention on the immediate and urgent need to create new products and to improve old ones. There are two possible ways. To a degree, each complements the other. For one thing, we can form our own ideas of what postwar customers will want in the way of architectural porcelain enamel and, by means of a good marketing program backed by plenty of money, attempt to force a demand for the things we

have created. Or, we can go to our market and find out what is wanted and then make the necessary plans to supply this want. As has been mentioned, it takes a great deal of money to force a demand and since we do not have that kind of money, it would appear that the more economical approach would be to use the second method; namely, to find out what the market wants and take steps to supply it. In either case, it seems logical that our *product* must be the first step in any program, whether we pool our money or not.

Product development is a combination of engineering and marketing research. As such it involves a specialized sort of knowledge that most of us have had little time or opportunity to acquire. The Marketing Committee of the P.E.I. is undoubtedly qualified in this respect and could handle a joint product development program providing it could devote enough time to the task which is long, difficult and tedious. Or, assuming agreement on the advisability of cooperation, an outside expert, or firm of specialists, could be employed. No matter how product development is handled, architects undoubtedly would prove the most fruitful source of information concerning postwar porcelain enamel for building construction use. Other sources are our own salesmen, engineers and research technicians. The Patent Office, the Alien Property Custodian and the Producer's Council, Inc.,* might also prove worth consulting. The main thing is to build a list of products that can be narrowed down to those which seem to possess the greatest possibilities of profit and steady volume. The procedure involves studies of marketing feasibility, general market conditions, production costs in relation to selling price, and probable market acceptance.

From the standpoint of the entire industry, it would seem worthwhile to investigate jointly the possibilities of improving the characteristics of porcelain enamel to make the material more acceptable to architects. While many improvements will undoubtedly come to mind, the following are offered for whatever consideration they deserve.

—*To develop a method of eliminating wavy surfaces in finished porcelain sheets. Design metal shapes, or patterns, that can be stamped into steel to give it necessary rigidity and freedom from warping defects with no loss of design freedom to the architect;*

—*To develop a series of standard shapes and sizes which all enamel companies can stock for quick supply on demand (It is suggested the sizes be based on a module of four inches.);*

—*To adopt a standard method of attachment and installation with suitable guarantees;*

—*To define the limitations, as well as the advantages, of porcelain enamel and adopt standard minimum guarantees;*

—*To develop a way of rust-proofing enameled sheets that are cut on the job;*

—*To give porcelain enamel a definite character of its own that will lift it out of the class of cheap, temporary veneers and give it standing as a genuine building material equal, in its own special way, to accepted materials such as brick, marble, etc.*

The development of new uses for porcelain enamel also lends itself to group action — especially if it is agreed that architects and their associates buy porcelain enamel first as a material and second as the product of an individual producer. With respect to new products, or new uses for porcelain enamel based, of course, on the probabilities of interesting the architects, a joint study now of such items as the following might aid in expanding the market —

a. Window sash frames so designed and constructed that they can be enameled satisfactorily and installed properly with no more than ordinary time and care by workmen such as are commonly employed on building construction work;

b. Heating and ventilating ducts, for use particularly where difficulty of replacement, fumes or other conditions serve to make porcelain enamel desirable. These should include chimney caps and flues;

c. Roofing and siding designed to express the true character of porcelain enamel, with no attempt at imitation and constructed for ease of erection, permanence, relatively low cost and rust-proofness. (The uses and advantages of porcelain enamel as flat roofing on buildings desired to be attractive from airplane view might also prove worth investigating);

d. Develop technique of using porcelain enamel in juxtaposition with other building materials to produce the most satisfactory results from the standpoints of beauty, suitability and durability;

e. A study of colors and their effect on exterior and interior surfaces in different lights and from different visual axes;

f. The specific uses and advantages of porcelain enamel for factories, railroad stations, recreation centers and other such structures where cleanliness and ease of upkeep are important factors;

g. The decorative and practical use of porcelain enamel for exteriors and interiors of such public carriers as railroad coaches, street cars, busses and elevateds.

Step Two: Sales Promotion

Up to now the porcelain enamel industry as a whole has never done much in the way of sales promotion. Part of the reason, perhaps, can be found in the fact that, until a few years ago, there was no compelling need for it. If a durable and color-

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*(*This organization forms a link between the building construction industry and the architectural profession. It provides a technical consulting architectural service for building materials and equipment manufacturers, a program designed to aid in simplifying manufacture and reducing construction costs of materials and equipment, and facilities to coordinate research and testing of members' products. On the educational side, the Producers' Council issues a periodic bulletin to present and promote quality building materials. It maintains local council chapters in principal cities and distributes a news service which is both local and national in scope on matters of interest to the building industry. The development program of the council includes forecasts and analyses of all types of construction markets, industry programs to develop markets, and sound consumer relations, and postwar plans designed to attain high levels of construction activity and employment.)*

fast finish was desired for steel, porcelain enamel was the only answer. In the years that just preceded the war, however, out-industry competition had begun to hurt a bit. Part of our market was slashed off by glass, another by aluminum and stainless steel, a third by synthetic enamels. This in spite of the evident fact that porcelain enamel was, in most respects, vastly superior to these materials. Why did this happen? A good deal of the answer can be found in sales promotion. From the beginning, the producers of glass, of aluminum, of stainless steel and of synthetic enamels have religiously extolled the virtues of their material; they showed architects and builders how to employ it to best advantage; they found new uses and new techniques that increased the practical limits of the architect's creative imagination. In short they did a bang-up job of promoting. And this work has been carried on even during these war years. The possible result of such consistent sales promotion may be an increase in the demand for these materials after the war — in markets we have heretofore considered our own—that might seriously affect us.

This potential threat to our future economic well being brings up the question: What can we do about it? The answer would seem to be sales promotion. Certainly in the light of past history it seems likely that, unless we follow suit with a sales promotion program of our own, we cannot expect architects and builders in future years to give porcelain enamel any more consideration than they have in the past. And we need their consideration if we are to hope to expand the architectural porcelain enamel market to its necessary limits.

In sales promotion, as in product development, there is no discernible conflict of individual company interests. It should be fairly easy to devise a joint program that will aid in the attainment of the common objective from which these interests all spring: the growth, permanence and profit of our own particular business. The sales promotion program will, of course, follow closely in the path of the product development program. While the scope and specific character of the former will be determined very largely by facts developed in the latter, it is suggested that the basic function of any sales promotion program should be:

1. To argue the suitability of porcelain enamel as a bona fide building construction material;

2. To demonstrate its durability and low cost — both first cost and cost of erection; and

3. To convince architects that porcelain enamel gives them wide latitude with respect to form, texture and color.

Editor's Note:

In the first two articles of this series Mr. Lohman covered problems facing the development of architectural porcelain enamel as a building material, and presented data from recognized sources on the market potential in the building field. He stressed the importance of the architect as the key for expanding this field for porcelain enamel.

In this third and concluding article, the author presents specific suggestions for cooperative effort in expanding this newest market.

This looks like a pretty big job to do, especially in view of the head-start competitive materials have on porcelain enamel and the present antipathy of most architects toward the material. It looks even larger when the fact is faced that very few suitable examples of architectural porcelain enamel exist that could be used to illustrate its wide design flexibility and splendid color range. To overcome this lack, while at the same time building goodwill and teaching architects and draftsmen how to use porcelain enamel, it is suggested:

1. That all interested companies sponsor a series of design competitions among architects, architectural draftsmen, builders and architectural students in order (a) to acquaint these all-important groups with the uses and advantages of porcelain enamel and (b) to obtain material that can be used to excellent purpose as illustrations;

2. It is further suggested that this program be separated according to the above groups. That is, there should be one competition open only to registered, practicing architects; a second competition limited to architectural draftsmen and builders, while a third should be restricted to architectural students;

3. That the architectural porcelain enamel companies become members of the Producers Council, Inc.; and,

4. That continued use be made of proper trade journals to inform architects and builders of the advantages *and* limitations of porcelain enamel.

Step Three: Advertising

The third step in a marketing program that could be taken together is advertising. Here again, as with product development and sales promotion, the argument in favor of pooling money is based on the premise that architectural porcelain enamel must be sold first as a material before it can be sold as a finished product. Granting this premise, it is reasonable to conclude that a more effective job of advertising could be done by joining forces than by proceeding separately. Cooperation in such a program is especially appealing from the standpoint of cost for, while advertising to architects is not as expensive as some forms of consumer advertising, it is not cheap by any means. The chief reason for this lies in the fact that architects, who have a higher educational and cultural background than the average, are more critical of advertising and, therefore, are more difficult to sell through this medium than most people. This means that advertising directed to them must be very good to be effective.

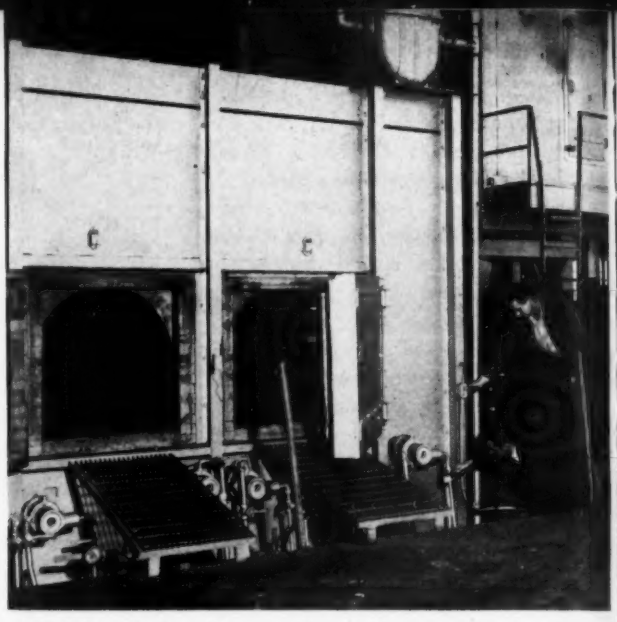
Satisfying the architect's esthetic taste to the point where advertising directed to him attracts attention, stimulates interest and creates a desire that culminates in business, requires the observance of certain fundamental principles derived from and applied in relation to their daily work.

From what is known of the individ-

to Page 50 →

SEAPORCEL — M. J. Saltzman, president of Seaporcel Porcelain Metals, Inc., is optimistic concerning the future for porcelain enamel and ceramic finishes. This company operated its enameling plant throughout the war on essential products, greatly expanding its facilities and production. A further expansion program is under way.

FINISHFOTO



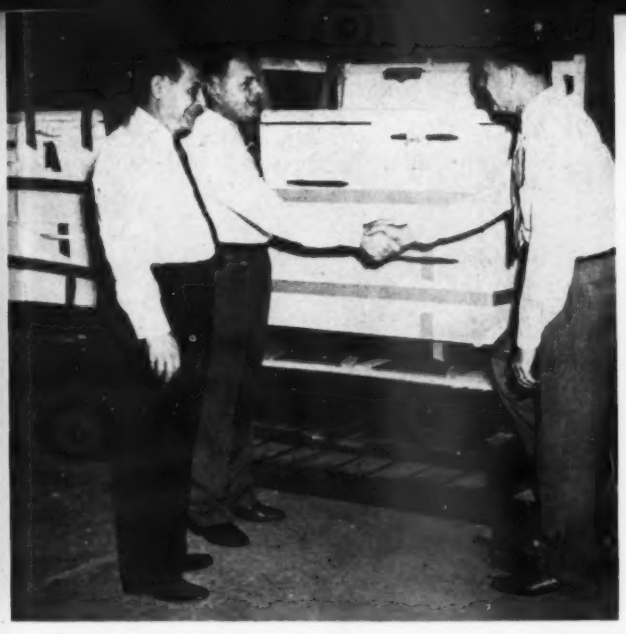
SERVEL — The porcelain enameling division was the only section of the Servel, Inc. plant which was not utilized during the war period. The furnaces were cold for more than three years. H. P. Juncker, now general foreman of the division, and other key men were working on the production of aircraft parts. Here we see Arthur Dukes (below), day foreman, and Cecil Nix, of the enameling division, lighting the furnaces for the resumption of production.

FINISHFOTO

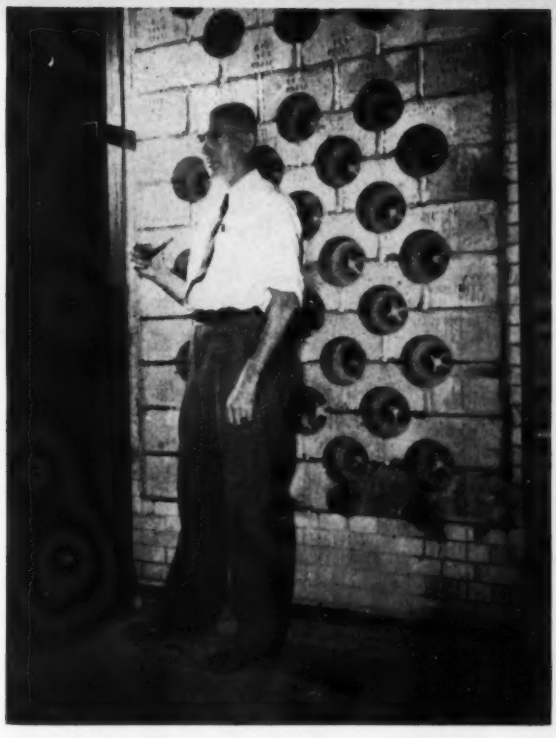
INGERSOLL — Washing machine tubs are "rolling" again from the continuous production lines in the plant of Ingersoll Steel Disc Division, Borg-Warner Corp. Here we see "Joe" Thornton, (center), enamel plant superintendent, at the final inspection station from which OK'd finish coat tubs go immediately into shipping containers. Ingersoll now has a big expansion program under way.

Typical production and

IT would be a pleasure for every enameler to take a trip around the country at this time and see the unprecedented activity in enameling plants. Those plants in which the reconversion problem is of little consequence are, in most instances, already turning out porcelain enameled products in quantity — the quantity being determined for the most part by the availability of materials.



NORGE — Here we see evidence of the production which is under way at the new Effingham, Illinois, range plant of Norge Division, Borg-Warner Corp. W. M. Davis, gas range sales manager for Norge, shakes hands with T. R. Jaycox, manager of H. L. Dust & Son, Effingham dealer, as the latter receives the first Norge range to be produced for the trade in the new plant. M. B. Lasky (left), president of Mayflower Sales Co., area distributor, congratulates Jaycox.

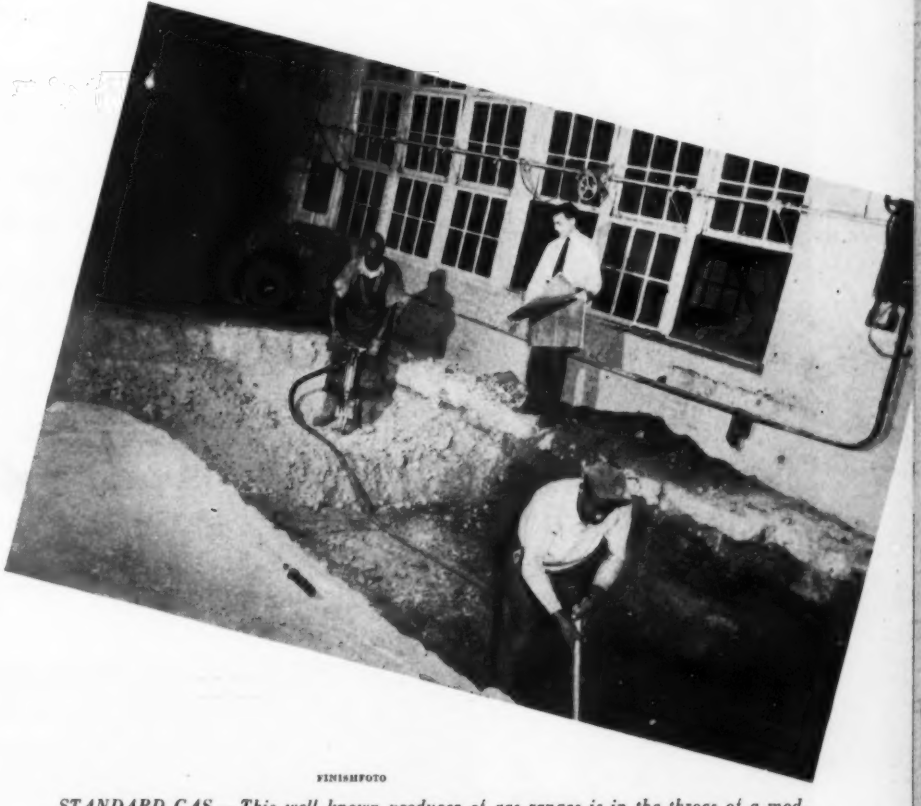


PORCELAIN STEEL — Frank Gibson, new plant superintendent at Baltimore Porcelain Steel Corp., with his ever-present pipe, standing at the end of a recently installed continuous furnace. When the Baltimore plant's extensive modernization program is complete it will represent one of the country's outstanding production facilities for enameled ware.

FINISHFOTO

Expansion in enameling plants

Increased production is the order of the day in every enameling plant. Expansion and modernization of enameling plant facilities is under way in all sections of the country. *Finish* presents a pictorial presentation of only a few of the many plants that are undergoing changes and expansion to meet an entirely new level in production requirements. The expansion activity is industry wide.



FINISHFOTO

STANDARD GAS — This well known producer of gas ranges is in the throes of a modernization program which includes extensive changes in the enameling plant. In this picture we see excavating under way for a new continuous enameling furnace. Other equipment is being expanded accordingly. The man with the blue print is James S. Crawford, new enamel superintendent at Standard Gas Equipment Corp.

Bringing down the game is more dependent upon proper muscular control and coordination than any other single physical factor. . . . The "Lo-Hi" pH process of chemically cleaning steel, preparatory to porcelain enameling, makes practical a control in the pickle room that gives management the know-what-to-plan-on the rest of the way in production. A comparatively small appropriation for this department (the bottle neck of most plants) will pay handsome dividends the rest of the way down the line. . . . The findings of our laboratories and our experience in solving this problem for many manufacturers is at your disposal.

LO HI

NORTHWEST CHEMICAL CO.
9310 ROSELAWN DETROIT 4, MICH.

pioneers in pH cleaning control—serving you since '32

Eastern enameler's club

holds first postwar meeting

THE Eastern Enamelers Club held the first of its postwar meetings at the Ritz-Carlton Hotel in Philadelphia on Saturday, September 22. The business meeting was preceded by a luncheon at which H. B. Brown, merchandise manager, Philco Corporation, was the featured speaker. Approximately 75 attended the luncheon and afternoon meeting. Chairman for the meeting was N. R. Klein, Caloric Gas Stove Works.

The first get-together was in the nature of a re-organization meeting. (See October 1945 *finish.*) Mr. Klein presented a committee report covering suggested changes in by-laws, the frequency and location of meetings and possible change in name. While it was decided that the name should remain "Eastern Enamelers Club," all other recommendations of the committee pertaining to the by-laws and other Club activity were adopted.

By unanimous vote the Club accepted the recommendations of the nominating committee, headed by Paul Seasholtz, J. M. Seasholtz & Sons, Inc., Reading, Pa., and elected the following officers for the ensuing year:

President: N. R. Klein, Caloric Gas Stove Works.

Vice President: Fred Campbell, American Rolling Mill Co.

Secretary: J. L. Lardusky, Baltimore Porcelain Steel.

Treasurer: G. H. Spencer-Strong, Pemco Corporation.

The Club is getting away to a good start with a fine showing in attendance and Club enthusiasm and interest. The next meeting is planned for the first week in December, and will be held in either Baltimore or New York.

The program committee, headed by Herbert Turk of Pemco Corp., has begun to correlate all suggestions made with reference to future meetings and programs, and promises that the next meeting will be one of importance to all members.

In his luncheon address Mr. Brown emphasized the vast strides that had been made during the war and the development of hundreds of new ideas that will, at some near future date, be available as practical improvements definitely affecting our daily lives. While he stressed the vast pent-up purchasing power of the public, he called particular attention to the need for immediate "selling" in order to break down the present inertia in the movement of merchandise due to the public's desire "not to buy now but to wait until the new things have been thoroughly tried."

Extracts from the luncheon address

By H. B. Brown

American manufacturing industry, free of unreasonable restraints, must produce and can produce enough merchandise and service to give steady employment to from 12 to 14 million people, its portion of a total employment of 55 million workers, thereby helping to create the necessary national income of $120,000,000,000.

Under our great system of free enterprise, American industry converted to war production with amazing speed and flexibility.

And now with the same speed and efficiency it is reconverting to a peacetime merchandise production of tremendous volume.

Left: The speakers table with Herbert Turk, Pemco; Harold Filey & Nathan Klein, Caloric; H. B. Brown, Philco; Fred Campbell, Armco; R. R. Danielson, Metal & Thermit; and Paul Seasholtz of J. M. Seasholtz.
Right: H. B. Brown, the luncheon speaker, and Fred Campbell, newly elected vice president.

However, this manufacturing achievement of quick reconversion to peacetime volume production is only half of the job that must be done to give steady and continuous employment to these millions of people and to create the national yearly income of $120,000,000,000. We won't have to wait long until this big pent-up demand for merchandise has been satisfied. All of this merchandise *must be sold* and sold continuously in even volume to the ultimate consumer.

Certainly a buying boom will spread over America almost immediately, every survey proves it — but it won't be on a self-serve basis.

We have been hearing too much lately about the overwhelming demand that exists for all kinds of merchandise and about the many billions of dollars in the hands of the public ready for spending. Also about the millions of electric refrigerators, washing machines, automobiles, radios, items of furniture, electric cleaners, and so on, that the public is going to buy right this minute.

However, the price and the quality of all this merchandise will continue to be an important factor, and we may easily find that the buying public will still continue to exercise calculation, restraint and judgment in its purchasing.

All of these millions of manufactured items still *must be sold* and sold intelligently. It is easily possible that too many manufacturers, wholesalers and retailers, dazed by the vast pent-up market that awaits them, are overlooking the vitally important long haul distribution and planning and marketing and selling.

Right now, in my opinion, is when selling, well organized, efficient, constructive selling, becomes absolutely essential and indispensible.

Now is the time for everybody in business to build up quickly, well-trained, efficient, and enthusiastic sales organizations that will produce through the years that volume of selling which makes possible volume production, full employment and continuous national prosperity.

1.

Harry B. Fulton and H. M. Brenner, B. F. Drakenfeld & Co.; C. Goens and D. H. Fuller, Quality Porcelain Enamel Mfg. Co.; W. H. Davis, Harshaw Chemical Co.; E. M. Hommel and W. King, O. Hommel Co.; and J. Horelick, Rheem Research Products, Inc.

2.

John Whalen, Floyd-Wells Co.; G. C. Albright and J. M. Krupp, Lansdale Porcelain Enamel; W. B. Rose, Pemco Corp.; H. A. Roth, Rundle Manufacturing; J. B. Willis, Pemco Corp.; and J. Weiler, R. Y. Miller and C. Fegley of Floyd-Wells Company.

5.

C. S. Burhans, Pennsylvania Salt Mfg. Co.; J. A. Marlow; H. Shalansky, Andes Range; Wm. W. Paul, O. Hommel Co.; C. J. Konemann and Chas. Herman, Caloric Gas Stove; I. F. Thompson, O. Hommel Co.; H. F. McIntyre and E. R. Rudolph, Pennsylvania Salt.

6.

George G. Ecke and Howard J. Price, Prizer-Painter Stove Works; J. C. Malecek, Chicago Vitreous Enamel; Wilfred Clay, Roberts & Mander Stove Co.; James S. Crawford, Standard Gas and Equipment; Howard Moad, Chicago Vitreous Enamel Product.

SNAPSHOTS OF EASTERN ENAMELERS

3.

George McCormack and E. D. Walker of Roberts & Mander Stove Co.; Wesley Reynolds, Rundle Manufacturing Co.; Ed Greenstreet, Chicago Vitreous Enamel; W. T. Winand, Baltimore Porcelain Steel Corp.; and C. E. Smith, Chicago Vitreous Enamel.

4.

Chas. Rhine & L. A. O'Donnell, J. M. Seasholtz; H. S. Erbe, Great Lakes Steel; E. L. Seasholtz, J. M. Seasholtz; J. A. Cahill & G. H. Daman, Youngstown Sheet & Tube; George Kelly, Roberts & Mander; and O. S. Signer & Jack Siegel, Guaranteed Porcelain Service.

7.

Don Weaver, Welbilt Stove Company; W. N. Noble and W. H. Wilson, Ferro Enamel Corp.; S. B. Pearlman, Atlas Electric Products Co.; G. S. Lindsey, Ferro Enamel Corp.; and N. G. Wedemeyer, Rohm & Haas Company.

8.

E. F. Giemann and Tom Moran, C. V. Hill & Co.; Jos. C. Richmond, Bureau of Standards, H. D. Prior & G. H. Jeffrey, Titanium Alloy Mfg.; E. G. Leary, Chas. T. Brandt; P. F. Pardonner, American Rolling Mill; and Raymond Quay & C. A. Dombach, Keeley Stove Co.

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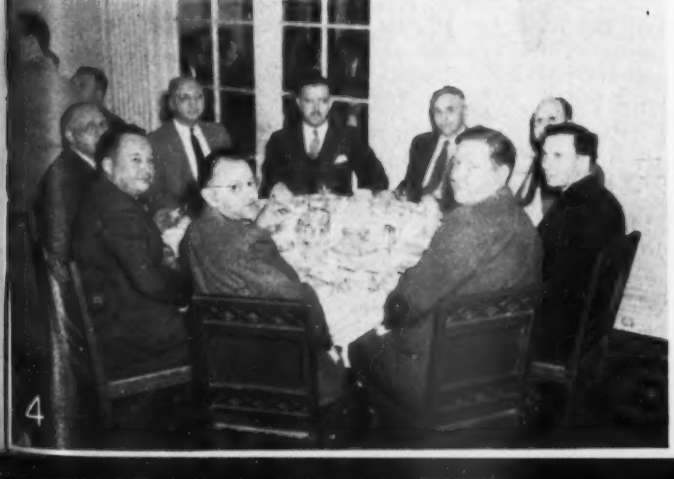
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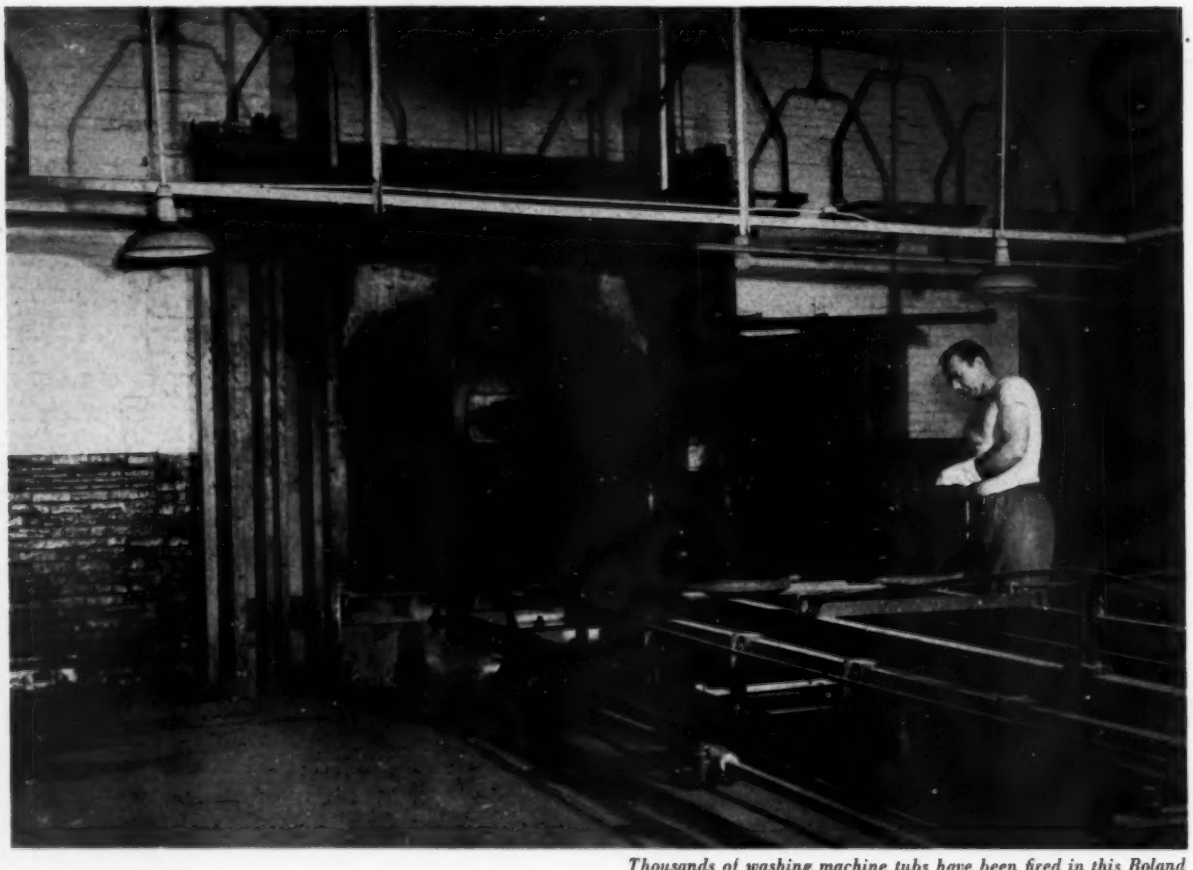
BOLAND BUILDS BETTER BOX TYPE FURNACES TOO



Thousands of washing machine tubs have been fired in this Boland box type furnace at Ingersoll Steel & Disc Div., Borg-Warner Corp.

Boland's reputation for better built furnaces is based on both continuous and box type installations.

The Boland "SINGLE-FLOW" continuous furnace, with the "FLOATING ROOF" is giving many large production plants the trouble-free service they need. Many continuous plants, however, require box type furnaces for special work and auxiliary production. Other plants whose products do not lend themselves to straight-line production find that properly constructed box type furnaces can turn out high production in an eminently satisfactory manner.

Before the war enameling plants were turning out thousands of square feet of finished enameled ware of all kinds on Boland box type furnaces. During the war, many were used for heat treating. Now they are back on the job for enameling. Whatever the job, Boland furnaces are built for economical year-after-year operation.

If you plan to build one, or a multiple installation of box type furnaces, check on Boland installations before placing your contract.

ALBERT J. BOLAND COMPANY

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DESIGNERS AND BUILDERS OF CONTINUOUS AND BOX TYPE ENAMELING FURNACES

Chicago district enamelers club meets

THE Chicago District Enamelers Club held its first postwar meeting on Saturday, October 13, at the La Salle Hotel, Chicago. There were 100 members and guests present at the meeting which followed a luncheon held in the Hotel's Lincoln room.

Welding the principal subject

The subject of welding was ably covered by two speakers and a color sound movie. The first speaker was Clyde G. Bassler, district manager, Taylor-Winfield Corporation, who discussed spot, projection, rolled seam and butt-flash seam welding. The discussion was tied in with the requirements for porcelain enameling and some specific suggestions on product design for welding prior to enameling were offered.

The second speaker on the subject of welding was H. M. Downing, welding engineer, Lincoln Electric Corporation. As a prelude to his talk a full-color, sound picture on welding principles was presented. The theme of the picture was the prevention of distortion during arc welding, through controlled shrinkage.

Following this interesting picture Mr. Downing outlined the basic principles governing successful arc welding. His outline included sources of welding current, weldability of metals and weld deposits, oxidation, vaporization, non-metallic inclusions, change of structure, gas solubility of metal, thermal expansion and thermal conductivity.

Both speakers referred to the serious need for a free flow of information between the enameling and welding industries in order that mutual problems may receive adequate attention.

A high percentage of enameling plants have at some time or another faced definite problems related to welding technique. There is no time like the present to inaugurate cooperative programs which will bring the problems of the enameler before welding technicians and, in turn, give the enameler the benefit of any resulting improved techniques.

Architectural movie

A colorful movie on architectural enameling was presented by representatives of Carnegie-Illinois Steel Corp. (U. S. Steel). Included in the picture were interesting shots of the Grass Valley Hospital (*finish*, March 1944) and the Golden Gate Turf Club (*finish*, June 1944), two of the country's largest installations of architectural porcelain enamel. Carl F. Block was narrator for the film.

Chicago Technical Societies Council represented

Paul A. Jenkins was present at the luncheon meeting as a representative of the Chicago Technical Societies Council. Mr. Jenkins, who was formerly with WPB and is now executive secretary of the Council, gave a brief outline of the Council's principal objects and explained the functions of some of its committees. He referred to the availability of a Sci-En-Tech Register listing the 17,000 Council members.

Business meeting

The necessary business to be conducted was held to a minimum due to the length of the program. By a unanimous vote the president was instructed to handle all appointments of delegates and alternates to the Chicago Technical Societies Council.

The secretary-treasurer reported a total paid membership in the Chicago Club of 129, which is twelve above the peak membership of 117 for the past year.

Tentative date announced for the next Club meeting is December 8.

More finishfotos on page 36

Part of the group who listened to the interesting discussions on welding at the Chicago meeting.

SPEAKERS AT THE CHICAGO CLUB MEETING

FINISHFOTOS

CARL F. BLOCK, Carnegie-Illinois Steel Corp., who was narrator for the interesting color picture on architectural porcelain.

PAUL A. JENKINS, executive secretary of the Chicago Technical Societies Council, who outlined the objects and plans of the Council.

H. M. DOWNING, Lincoln Electric Corp., presented a full color sound picture on welding and discussed the basic principles covering arc welding.

CLYDE G. BASSLER, Taylor-Winfield Corp., covered spot, projection, rolled seam and butt-flash seam welding in his discussion before the enameling group.

MAHON *Hydro-Foam* DUST COLLECTOR

Above and at right—Typical installations of a battery of 27 Mahon Hydro-Foam Dust Collectors at Nash-Kelvinator Plant. Combined capacity 725,000 cubic feet per minute.

Mahon Portable, Ductless Model with hooded, ventilated work bench on one or both sides—an excellent arrangement for burring, grinding and polishing operations.

A typical Mahon Stationary Model. This Model is usually located remote from the source of dust—collection is by means of ducts to collector.

. . . *deposits* DUST *safely* UNDER WATER

Dust control in industry is a necessity today . . . it pays large dividends in health and efficiency of workmen—to say nothing of the fire and explosion hazards ever present where dust from certain combustible materials is permitted to accumulate. The Mahon Hydro-Foam Dust Collector offers to industry a highly efficient means of coping with dust of all kinds—whether it be a nuisance or a real hazard. Even the most minute particles of dust are removed from the air and deposited safely under water. This patented principle is unique, in that it does the job thoroughly without pumps, spray nozzles or screens—the only moving parts being a suction fan and the sludge unloader. Mahon Hydro-Foam Dust Collectors are now serving hundreds of industrial plants throughout the country . . . these collectors are manufactured in standard units of various capacities—they can be installed singly or in multiple batteries to handle any volume of air or any dust condition. Solve YOUR dust problem now.

Address Inquiries to Industrial Equipment Division

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Manufacturers of

Metal Cleaning Machines, Rust Proofing Machines, Hydro-Filter Spray Booths, Ovens of All Types, Filtered Air Supply Units, Hydro-Foam Dust Collectors—and Many Other Units of Special Production Equipment—including Complete Finishing Systems.

MAHON

The Washington round-up

By Wilfrid Redmond

THE Civilian Production Administration will function as the transitional production control agency after November 3, when WPB takes a final bow from the war production scene.

Jack D. Small, chief of staff to J. A. Krug, chairman of WPB, will head the new agency. Mr. Krug will return to private industry.

The CPA will function only as a reconversion agency and will not be permanent. The six main functions of the agency will be:

1. To expand production of materials which are in short supply.

2. Limit the use of materials which are still scarce.

3. Restrict the accumulation of inventories so as to avoid speculation, hoarding, and unbalanced distribution which would curtail total production.

4. Grant priorities assistance to break bottlenecks which threaten to impede the reconversion process.

5. Facilitate the fulfillment of relief and other essential export programs.

6. Allocate scarce materials or facilities necessary for the production of low-priced items essential to the continued success of the stabilization program.

Five operating bureaus

Five operating bureaus will compose the framework of the new organization. They are:

Bureau of Reconversion Operations, Director Fred Glover, will contain all the industry divisions including consumers durable goods and chemicals.

Bureau of Reconversion Priorities, Director Lincoln Gordon, will have administration of priorities, allocations, regulations, inventory, compliance and such other controls that may be needed during the transition period.

Bureau of International Supply, Director Robert Turner, will be charged with protecting the economy against undue withdrawals by export and will manage import controls.

Bureau of Field Operations, Director Clarence A. Woodruff, will control remaining operations in the field and regional offices.

Bureau of Demobilization, Director G. Lyle Belsley, will take over those functions which are going to be demobilized or transferred.

One of the main activities of CPA will be to help break reconversion bottlenecks. If a manufacturer is unable to go ahead with production because of the lack of a few machines or pieces of equipment, CPA, according to Administrator Small, will work with him to break the bottleneck and get the equipment. However, he pointed out that priorities will not be used to spoon-feed industry, nor will they be granted to beat a normal lead-time, nor to get a more favorable price, nor for convenience.

Another closely controlled activity will be the maintenance of inventory controls. During the transition period, inventory and distribution controls will be tightened if and when found necessary, Small warned.

W.P.B. orders to be continued

The new agency will continue allocation programs where short materials are involved, such as tin, lead, and rubber. All WPB orders and regulations in effect when CPA takes over will remain in full force.

The only indication of the probable life of CPA was a statement by Mr. Small that priorities would probably be used for "some months" yet to prevent hoarding and distribution inequities.

Controls will remain over lead and tin and the allocation program for these metals will be continued. Tin and lead oxide for glazes remain tight with no relief indicated in the current supply situation.

All end use restrictions on lead in the production of lead chemicals have been eliminated and an overall quota for the production of lead chemicals has been established by recent amendment of Order M-384.

Producers are now restricted to a maximum quota in each quarter of 55 per cent of the aggregate quantity of lead they put into process for the production of lead chemicals during the first six months of 1944.

A carryover clause is included in the amendment permitting the use in any later quarter of unused quantities granted under the quota provision. All inventory and reporting provisions of the order are eliminated in the revision. Newcomers in industry may be assigned quotas by applying to the WPB Chemicals Bureau at Washington, D. C.

Washing machines

An increase factor of 7.7 per cent has been established for the computation of the manufacturer's price for washing machines. This is a revision from the previously announced figure of 5.2 per cent.

At the same time, OPA announced pricing rules for washing machines at the distributor and dealer level. Retail prices for washing machines and ironers are divided into three groups, reflecting average differences in transportation costs to three geographical zones. Every tag attached to the machine by the manufacturer must show the states in which the retail price applies. The tag must also carry the manufacturer's name or brand name and the model number.

Retail prices for washing machines and ironers in Zone 1 will range from

$29.95 to $189.95. Zone 1 includes the states of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, West Virginia, Ohio, Kentucky, Indiana, Michigan, Illinois, Wisconsin, Missouri, Iowa, Minnesota, Kansas, Nebraska, South Dakota, North Dakota, and District of Columbia.

Prices established for Zone 2 range from $34.95 to $194.95. Zone 2 includes the states of Georgia, Mississippi, Tennessee, Louisiana, Florida, Arkansas, and Oklahoma.

Retail prices for Zone 3 range from $39.95 to $199.95. The Zone 3 states are Washington, Oregon, California, Nevada, Montana, Idaho, Utah, Colorado, Wyoming, New Mexico, Arizona, Texas, and Alabama.

These uniform prices, which are based on manufacturer's lowest ceilings (adjusted for the reconversion price increase) to distributors may be replaced from time to time by individual pricing orders affecting the brands of particular manufacturers. These will not change the price levels, but may accommodate more closely the variations in customary practices as to zoning, differentials and the like.

Because distributors are able to absorb only one-fourth as much as dealers, their ceiling prices have been worked out to allow the distributor to pass 80 per cent of the increase on to the dealer, absorbing 20 per cent himself. This is done by allowing the distributor to add 4.9 per cent to his October 1941 prices for washing and ironing machines.

Manufacturers are also provided with a formula for determining their ceiling prices for old models. They are established on the basis of the prices which they quoted between Jan. 1 and Oct. 15, 1941. The 7.7 per cent increase factor may be added to these ceilings.

New pricing procedure is also provided for new models, permitting manufacturers to figure their own ceiling prices in line with October 1-15, 1941 prices adjusted for the reconversion increase.

OPA has also set up machinery for encouraging manufacturers to make the same percentage of low-price models that they turned out before the war. The 7.7 per cent increase factor may be denied in whole or in part to any manufacturer who discontinues production of his low-end model or fails to maintain about the same proportionate output of low cost models which he produced between July 1, 1940, and June 30, 1941. Otherwise, OPA pointed out, such a manufacturer would get what amounts to a double price increase.

Bathtubs, sinks and lavatories.

Although labor difficulties have slowed down production of cast iron bathtubs, with two plants closed down completely, production of 80,000 tubs is estimated for the fourth quarter.

The WPB expects shipments of steel sheets will get started to the formed ware manufacturers this month for initial production of steel tubs. It is doubtful, however, whether shipments will have been made in quantity during October.

Two plants are now in production of cast iron sinks and lavatories and output is expected to be stepped up gradually. Two companies, the Humphries Co. and the Rundle Manufacturing Co., may open their plants for production of tubs, sinks, and lavatories by Dec. 1. The Ellwood Co. is expected to start production early in 1946.

Domestic refrigerators.

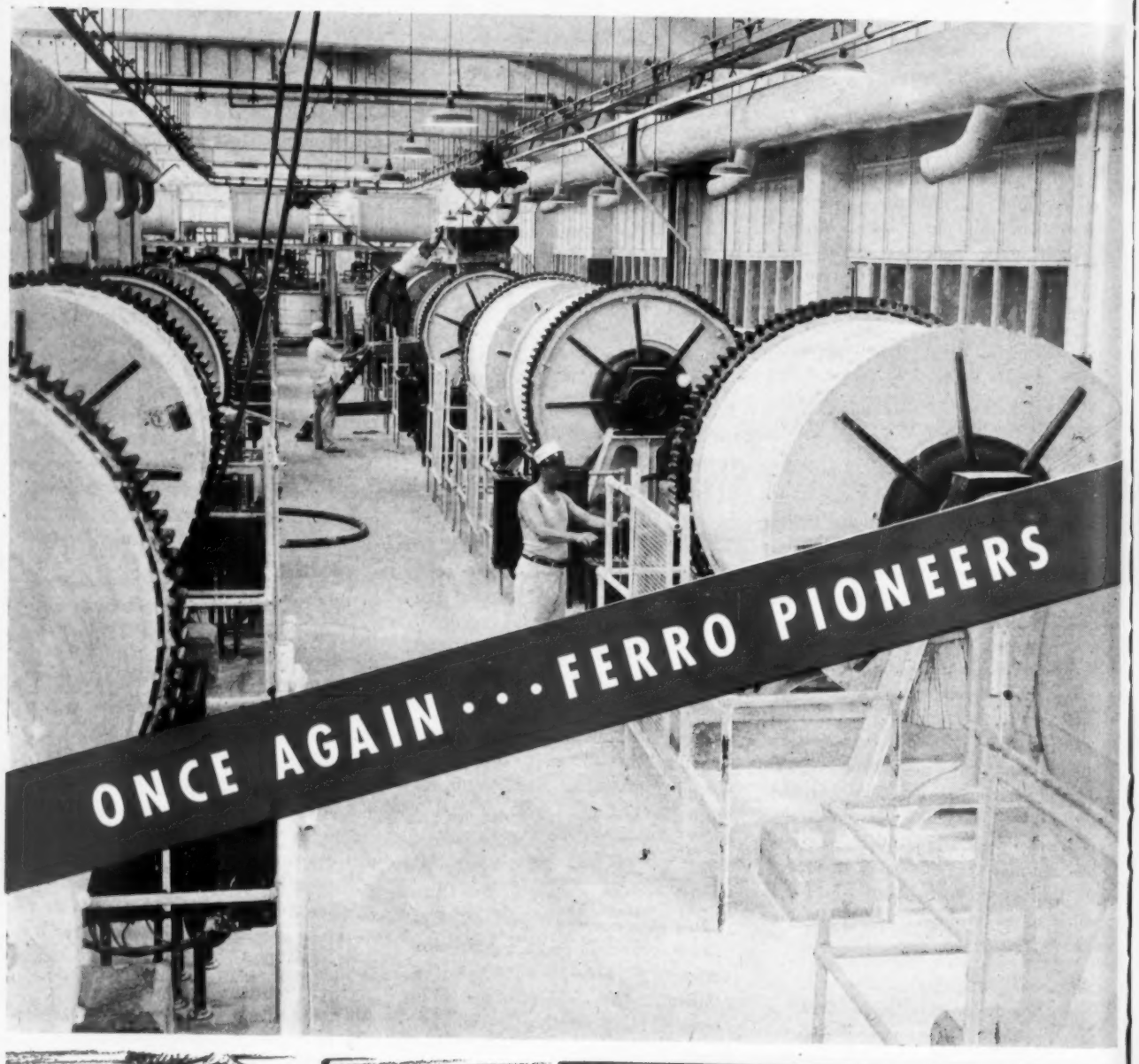
Approximately 100,000 domestic mechanical refrigerators are released from the stockpile by a WPB order, effective Oct. 10. With removal of the stockpile, control of distribution is ended. With an increasing rate of production, and the decline in the needs of essential users for whom refrigerators were reserved during the war, revocation of L-5-d is expected to be ordered by WPB.

Estimated production of refrigerators for the fourth quarter is now 600,000, considerably less than the initial estimate made in August. The new figure reflects the worsened labor situation which is affecting production not only in some of the primary plants but in the component shops as well. Production in the third quarter was 60,000 units and in the early part of October 28,000, which shows a pickup in the rate of manufacture. The labor situation is not uniformly bad, but affects only some of the plants in the industry. The materials situation is now nowhere serious. Manufacturers report that receipts of such materials as sheet and strip steel, fractional horsepower motors, and protective coatings are increasing at a favorable rate.

With the removal of the stockpile control Oct. 10, OPA announced that Revised Price Schedule 102, which governed manufacturers' sales of new refrigerators since early in 1942, would henceforth apply only to refrigerators produced prior to July 1, 1945, that is, the refrigerators still in the stockpile. The amendment authorizes the issuance of orders modifying the provisions of RPS 102 with respect to the stockpile refrigerators. At the same time, OPA announced that a new regulation would be issued governing ceiling prices for newly produced refrigerators.

All antimony requirements filled

Barring unforeseen emergencies, ample supplies of antimony oxide will be available for ceramics requirements. Every manufacturer has received the full amount he requested during the past month, and 30-day inventories are now being maintained. WPB officials report that a 33⅓ increase in present estimated requirements can be taken care of without great difficulty. The supply has been eased by military cutbacks in requirements for flame proof textiles, which at one time called for one half of the total supply, and in fire retardant paints.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GREEN LABEL

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If you are not using these cleaner, finer Ferro Clays, give them a tryout soon! Write for full particulars.

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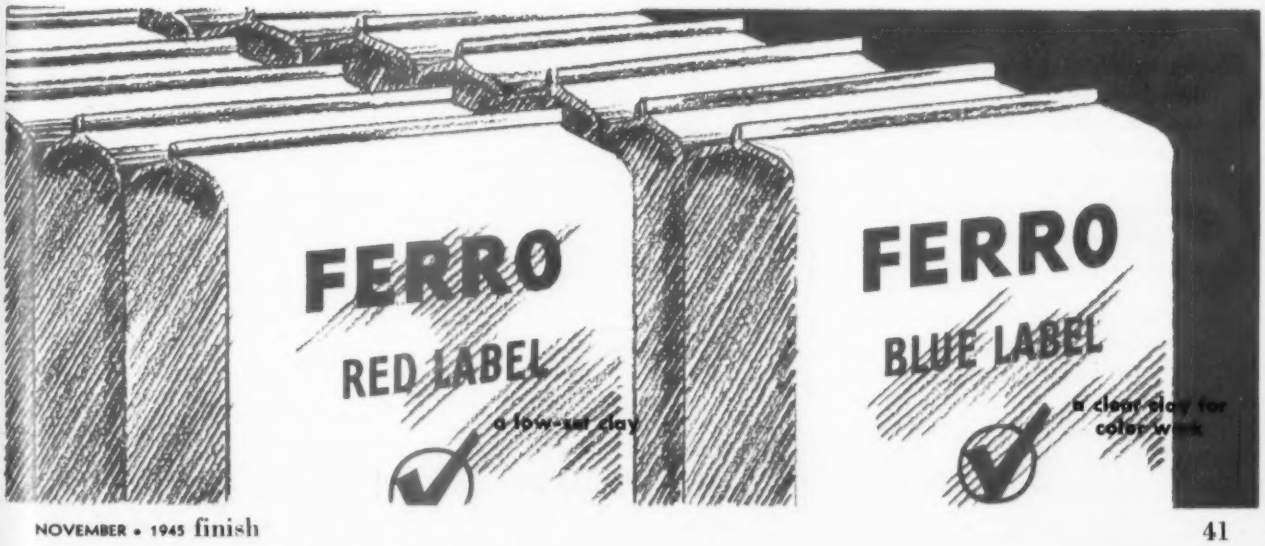

Personnel additions at American Central

M. S. (Dick) Schnell, formerly in charge of enamel plant control of the Y.P.S. Division of Mullins Manufacturing Corp., Warren, Ohio, is now associated with the enameling division of the American Central Manufacturing Corporation, Connersville, Indiana, in the capacity of enamel superintendent.

R. G. (Fuzzy) Rogers, formerly superintendent at Servel, Inc., Evansille, Indiana, is reported to have become associated with American Central Manufacturing Corporation. During the war he was with Republic Aviation Corporation in the capacity of works manager.

Ervite Corporation progresses

A report from J. W. Vicary of the recently formed Ervite Corporation, Erie, Pa., indicates that their new porcelain enameling plant is nearing completion, with equipment now being installed. Full-scale production is not anticipated before January.

Glen B. Fulton, formerly in charge of enameling operations at Alliance Ware, Inc., Alliance, Ohio, is reported to have taken a position with Norris Stamping & Mfg. Co., Los Angeles, California, in October. Prior to his connection with Alliance Ware, Inc., Mr. Fulton was with General Electric's enameling plant at Erie, Penna.

It is reported that Dr. A. F. Greaves-Walker is now with Metal Reserves Corporation, Washington, D. C. Dr. Greaves-Walker was formerly with the University of North Carolina. During the war years he was with WPB in Washington, D. C.

Marshall B. Taft, formerly of the Aero Division, Minneapolis-Honeywell Regulator Company, has been made assistant to Henry F. Dever, president of the Brown Instrument Company, Philadelphia industrial division of the Honeywell organization. Mr. Taft was for three years administrative assistant to the vice president of the Aero Division in Chicago.

Westinghouse to hold to prewar price levels on appliances.

New electrical appliances made by the Westinghouse Electric Appliance Division, Mansfield, Ohio, which will soon be reaching trade and consumer channels, will be priced at their last prewar levels, it was announced by J. H. Ashbaugh, vice president.

Pointing out that there is little doubt that many cost factors applying to the new line of Westinghouse home appliances have increased over what they were on prewar lines, Mr. Ashbaugh said that the decision to "hold the line" on prices is a direct fight against inflationary trends.

"We will do everything in our power to keep increased costs out of our manufacturing, sales and distribution work in an effort to maintain prewar price levels, or, if possible to reduce them," the vice president said.

National Bureau of Standards issues reflectance standards

The National Bureau of Standards reports that it is now prepared to issue sets of white, gray and black reflectance standards. Each set contains ten calibrated porcelain-enameled panels which diffusely reflect approximately 80, 70, 60, 40, 20, 15, 8, 4, 0.8 and 0.5 per cent, respectively, of the light that strikes them. They are 4″ x 4″ in size and have folded edges to minimize warpage resulting from enameling.

These standards are intended primarily for use with reflectometers used to measure ceramic products and other opaque materials for reflectance and approximate color by the photoelectric tristimulus method. As was pointed out in NBS Circular C429 (July 1942) on photoelectric tristimulus colorimetry, accurate chromaticity measurements are possible only when samples and standard are spectrally similar. For this reason, accurate measurements of the colors of only near-white, near-gray and near-black materials are possible with the new standards. They are intended primarily for use with the multipurpose reflectometer developed at the National Bureau of Standards (J. Research NBS *25*, 581 (Nov. 1940) RP1345), and with other reflectometers used to measure 45° 0° directional reflectance.

Each set is calibrated with the blue, amber and green filters described in NBS Circular C429, and is packed in a permanent, hinged-top, wooden box.

Stolte returns to enameling field

The Enamel Products Company, Cleveland, Ohio, announced that Nor-

man H. Stolte is now in full charge of enamel preparation including smelting and milling, laboratory and research work, and control work for their entire plant.

During the war Mr. Stolte was employed by the Magnesium Reduction Company at Luckey, Ohio, in that company's Analytical and Metallurgical Laboratory.

P.E.I. committees meet in Cincinnati

The various working committees of the Porcelain Enamel Institute held meetings in Cincinnati, Ohio, late in September to discuss all the problems related to Institute activity and prepare final plans prior to the annual meeting in Pittsburgh.

THE DEVELOPMENT COMMITTEE pointed to the necessity for gaining broader recognition for the work of the Institute in developing standard tests, establishing product standards and in other activities designed to advance the interests of the industry as a whole. It was felt by the committee that greater interest could be created and the activities themselves made of greater value to the industry by establishing a closer working relationship between the Institute committees and parallel committees in other branches of the porcelain enameling industry not represented in P.E.I. A detailed plan was presented to accomplish this objective.

Members of the committee are: P. B. McBride, chairman, Porcelain Metals Corporation; C. D. Clawson, vice chairman, Ferro Enamel Corporation; W. A. Barrows, Barrows Porcelain Enamel Co.; R. G. Calton, Tennessee Enamel Manufacturing Co.; Wm. Hogenson, Chicago Vitreous Enamel Product Co.; L. D. Mercer, Republic Steel Corp.; J. T. Penton, California Metal Enameling Co.; E. L. Seasholtz, J. M. Seasholtz & Sons, Inc.; H. R. Spencer, Erie Enameling Co.; N. G. Wedemeyer, Rohm & Haas Co.; and W. F. Wenning, Ceramic Color & Chemical Mfg. Co.

THE PROGRAM COMMITTEE voiced the opinion that there is a definite need for again establishing the fellowship at the National Bureau of Standards as a part of a long-range program of fundamental research. A former P.E.I. fellowship at the Bureau was discontinued at the beginning of the war.

Other recommendations of the committee include continuance of the Market Development Program, resumption of the Forum, market research investigation and furtherance of the work of the Product Standards Committee.

THE EXECUTIVE COMMITTEE met to discuss the problems of Institute activity now that the industry is rapidly reconverting to the manufacture of its usual peacetime products. Discussions covered the annual meeting (October 24), the renewal of the Forum (November 28-30), and other projects covered in the Institute's heavy schedule for the next few months.

Members of the executive committee are: R. H. Turk, president; O. J. Heyer, vice president; J. T. Penton, vice president; Wm. Hogenson, treasurer; and P. B. McBride, past president.

This photo of the program committee meeting includes the following: P. B. McBride; G. H. Spencer-Strong, Pemco Corp.; F. E. Hodek, Jr., General Porcelain Enameling & Mfg. Co.; Edward Mackasek, managing director, Porcelain Enamel Institute; R. H. Turk, Pemco Corp.; F. C. Woleslagle, Carnegie-Illinois Steel Corp.; R. A. Weaver, acting chairman, Ferro Enamel Corp.; Wm. Hogenson; R. A. Dadisman, American Rolling Mill Co.; B. T. Sweely, Chicago Vitreous Enamel Product Co.; W. F. Wenning; and Gladys Harley, P.E.I. Committee members not included in the photograph are: O. J. Heyer, chairman, Chattanooga Stamping & Enameling Co.; H. R. Spencer; C. D. Clawson; J. H. E. McMillan, Ingram-Richardson Mfg. Co.; L. E. Nordholt, Tennessee Enamel Mfg. Co.; R. J. Ritchey, Carnegie-Illinois Steel Corp.; and Herbert Turk, Pemco Corp.

Carl Schaffer with Institute of Cooking and Heating Appliance Mfrs.

Carl Schaffer, formerly chief of the Appliance Branch, Plumbing and Heating Division, War Production Board, has joined the staff of the Institute of Cooking and Heating Appliance Manufacturers, as an assistant to Samuel Dunckel, the managing director, according to a recent announcement from Institute headquarters in Washington.

Mr. Schaffer, who worked with both government and the industry during three years with WPB, is well known among stove manufacturers. Until 1939, he served as a district sales manager for the Chicago Hardware Foundry Company and the Malleable Steel Range Manufacturing Co. of South Bend, Ind. He was government contract manager for Thornet Bros., Inc., from 1939 to 1942, when he received an appointment to the War Production Board.

The Institute reports that in his new position Mr. Schaffer will maintain his contacts with stove manufacturers through regional and commit-

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The First TO SUCCESSFULLY INTRODUCE *American Clays*

TO THE ENAMELING INDUSTRY

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OHCO Clays are 100% American. This permits control in the mining, testing and processing and assures uniform Clays. A supply problem does not exist and unlimited quantities are available for immediate shipment. All OHCO Clays are air dried to maintain all natural physical properties that are required. All traces of impurities and foreign matter are removed before being pulverized, thus eliminating the causes of discoloration, blistering and specking.

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842—generally accepted as the best all purpose clay for all ground coat and cover coats. Has unusual properties for spraying, draining, or dipping ground coat. Gives added opacity in all zircon bearing frits.

American Vallendar—an all purpose clay having slightly more set than 842.

212—low set clay for maximum opacity in cover coats with good working qualities. It is widely used in antimony bearing, antimony free and resisting cover coats and ground coats.

710—a higher set clay than 212 with the same advantages.

999 and P Clear Clays—both being used successfully by enamelers with clear frits in conjunction with black, reds, mahogany and all dark colors. They solve the most difficult suspension problem. Recommended for acid resisting frits alone and blended to increase suspension properties.

AAA Lump—a high suspension clay that is thoroughly dried and cleaned.

Blends of these clays are available for individual production problems and special purposes.

The proper OHCO Clay will make any enamel work better.

Write or wire Hommel when Clay causes production problems or request a sample shipment and check the advantages.

O. HOMMEL CO.
209 FOURTH AVENUE
PITTSBURGH 30, PENNA.
Pacific Coast Agents
L. H. BUTCHER CO.

ARMY NAVY

World's Most Complete Ceramic Supplier

tee meetings, will handle special statistical surveys, and will work on the trade association's program for the reconversion period.

Ferro Enamel executive returns

Brigadier Wilfrid Mavor has returned to the Ferro Enamel Corporation. After a five year leave of absence, during which time he was with the Canadian Army in the capacity of Deputy Master General of the Ordnance, he has again taken up his duties as vice president in charge of foreign activities, a director of Ferro Enamel Corporation and president of Ferro Enamels (Canada) Limited, Ottawa, Canada.

A graduate of the Royal Military College, Kingston, Ontario, Brigadier Mavor enlisted in World War I in 1914 as a Lieutenant in the 48th Highlanders of Toronto, Canada, and rose to the rank of Major.

In World War II he left active business in 1940 to become an instructor at the Canadian Armoured Vehicle Training Centre with the rank of Major. Later he was appointed to the British Tank Mission in Washington with the rank of Lieutenant Colonel and returned to Canada in the rank of Colonel. He was subsequently appointed Deputy Master General of the Ordnance (B) with the rank of Brigadier.

Weaver to Welbilt

Don Weaver, formerly of Ferro Enamel Corporation's technical staff, is now with Welbilt Stove Company, Maspeth, Long Island, New York, in charge of enamel plant control.

E. L. McIlhenny, formerly with Detrex Corporation, Detroit, Mich., is now associated with Ferro Enamel Corp., Cleveland, Ohio.

Harvey elected president of AGAEM

At the annual meeting of the Association of Gas Appliance and Equipment Manufacturers, Lyle C. Harvey was re-elected president for the Association year beginning October 1, 1945. Mr. Harvey is president of the Bryant Heater Company, Cleveland, Ohio and vice president and director of Dresser Industries, Inc.

The following officers were re-elected for a term of one year: vice president, D. P. O'Keefe, O'Keefe & Merritt Co., Los Angeles, Cal.; vice president, John A. Robertshaw, Robertshaw Thermostat Co., Youngwood, Pa.; treasurer, John Van Norden, American Meter Co., New York, N.Y.

The Association reports that its membership has increased 35% during the war years. Present membership is said to represent 90% of the production in all gas appliance and equipment fields.

Bill Gladden with Strong Manufacturing

It is learned that W. (Bill) Gladden, formerly with Alliance Ware, Inc., is now with Strong Manufacturing Company, Sebring, Ohio. During the war he was with the Alliance Machinery Manufacturing Company, and at one time prior to his association with Alliance Ware was a service engineer with Pemco.

48th annual A.C.S. meeting scheduled for Buffalo

According to an announcement by Ross C. Purdy, general secretary, of the American Ceramic Society, the 48th Annual Meeting will be held at the Hotel Statler, Buffalo, New York, from April 28 to May 1, 1946, inclusive. It is expected that the program for the coming meeting will contain a wealth of research data and product and process information for the entire industry.

Walter Dorwin Teague, industrial designer, with offices in New York and Los Angeles, announces that he has taken two of his associates into partnership. Mr. Robert J. Harper, who joined Mr. Teague's organization in 1935, is director of design in the New York office and Mr. C. Stowe Myers, who has been with Mr. Teague since 1934, has the same responsibility in the Los Angeles office.

John E. Marquis joins Pemco ceramic staff

The Pemco Corporation has just announced the appointment of John E. Marquis to their Ceramic Laboratory staff.

Graduating in 1941 from the Ohio State University with a BA in ceramics, Mr. Marquis, a year later, was appointed Research Associate for the American Nepheline Corporation and for the United States Potters Association at the Engineering Experiment Station of the University.

His work in the development of leadless glazes during war time is said to have received national recognition.

Election of Thomas J. Hilliard as vice president in charge of sales of Carnegie-Illinois Steel Corporation, effective October 1, was announced

by J. L. Perry, president of this United States Steel subsidiary. Mr. Hilliard has been general manager of sales since 1938.

Thermal insulation

A new powdery material lighter than cork and twice as effective for thermal insulation will make possible, among other things, blankets weighing only a few ounces and refrigerators with 40 per cent more storage space in the average-sized model, reports the Washington Newsletter feature in the October issue of McCall's Magazine.

Million dollar plant for Prefabricated homes

Plans for construction of a million dollar new plant at New Albany, Indiana, for the production of prefabricated homes on a production-line basis were announced recently by Gunnison Homes, Inc. In making the announcement, Foster Gunnison, president of this United States Steel Corp. subsidiary, said that the new plant would have a capacity of 1,650 houses per year when operating on an eight-hour day. It is estimated the plant will be capable of producing 3,200 units on a double-turn basis.

Mr. Gunnison's announcement marked the first disclosure of the post-war plant of his concern since it became a part of the United States Steel on July 1, 1944. It is expected that the new plant will be completed by the middle of 1946. In the meantime, Gunnison Homes, Inc. will continue to operate its present plant at New Albany, Indiana.

Pressed Metal Institute national and district postwar committees appointed

F. C. Greenhill, president of the Pressed Metal Institute, has announced the appointment of post-war committees for the organization.

District groups hold regular meetings where recognized authorities speak on subjects of current importance to stampers. In turn, district chairmen are members of the national board of trustees and advise the district members regarding national activities of the Institute.

The committees include ten national working committees and ten parallel committees in each district. Each national committee comprises a chairman appointed by the president and nine members, one from each district. These district members in turn serve as chairmen of their local committee.

The following is a list of committee chairmen appointed: Public Relations, H. S. Johnson, The Metal Specialty Co.; Promotion, W. C. DeMaris, Heintz Mfg. Co.; Technical, W. T. Baird, Toledo Pressed Steel Co.; Research, C. C. Higgins, Worcester Pressed Steel Co.; Membership, R. F. White, Mullins Mfg. Co.; Program, Sam Morrison, Morrison Steel Products, Inc.; Dues & Assessment, C. W. Cederberg, Larson Tool & Stamping Co.; Talent, S. J. Menzel, Motors Metal Mfg. Co.; Inquiries, I. R. Morris, National Formetal Co.; Directory, J. H. Robins, The American Pulley Co.; Gifts, G. H. Roberts, Detroit Stamping Co.

Porcelain Enamel Institute Forum is resumed

Enamel plant men will welcome the news that the Porcelain Enamel Institute is to be resumed this year. Dates set are November 28, 29, and 30. Location: Ohio State University, Columbus, Ohio.

With reconversion taking place throughout the porcelain enameling industry, and with enameling production getting under way as rapidly as possible, Frank Hodek's Forum Committee felt that this medium for the exchange of information should be held at the earliest possible date. The three-day meeting in Columbus will be built around the idea of providing a "refresher" course, and will stress the fundamental problems of enameling. Presentations will be made by outstanding technical men of the industry who have also had long *practical* experience in solving enamel plant problems.

The committee stresses the point that attendance at the Forum is *not* limited to members of the P.E.I. and their employees, but is open to all companies and individuals engaged in or connected with the porcelain enamel industry.

To make the Forum self-supporting, registration fees this year have been fixed at $10 for the three-day session, $7.50 for two days or $5 for one day. A full record of the proceedings will be published in book form, with a copy included as a part of the registration fee.

The speaker for the banquet on November 29 will be the "Old Iron Master," Bennett Chapple, of The American Rolling Mill Company, who needs no introduction to enamelers.

New Westinghouse plant for industrial heating equipment

The Westinghouse Electric Corporation, Pittsburgh, Pa., announced that it will purchase property and buildings in Meadville, Pa., for the production of industrial heating equipment.

"The entire Westinghouse line of industrial heating equipment will be produced in the Meadville plant," Mr. McCully, Mgr. of Westinghouse Transportation & Generator Div. declared. "This includes many types of furnaces and other devices for heat-treating, driers, immersion heaters, space heaters and thermostats."

Holbrook to head Norge electric range sales

Harry J. Holbrook, formerly chief of WPB's Appliance Branch and in charge of commercial cooking and food warming equipment and domestic cooking and heating appliances, has been made manager of electric range sales for Norge Division of Borg-Warner Corp., according to an announcement by M. G. O'Harra, Norge vice president and general sales manager.

Mr. Holbrook joined WPB in 1942 and had close contact with the heating and cooking appliance manufacturers.

Century Vitreous Enamel Company

PORCELAIN for Cleanliness, Durability and Lasting Beauty

6641-6661 S. NARRAGANSETT AVE., CHICAGO 38, ILLINOIS

September 6, 1945

Mr. Dana Chase
Dana Chase Publications
360 N. Michigan Ave.,
Chicago 1, Illinois

Dear Mr. Chase:

I am sure you will be interested to hear that advertising in "Finish" has tremendously increased the inquiries we are receiving for enameling work and supplying enamel frits.

Inquiries have been received from distant sections such as New York, Texas, Florida, California, as well as Canada, South America and Australia.

We sincerely wish to congratulate you on doing a good job.

Very truly yours,

CENTURY VITREOUS ENAMEL CO.

George Sirovy

GSirovy:mr

Vice President

Thank you Century ... We believe that when an advertiser writes a publisher that he is getting good results "that's news" . . . We have a number of such letters in our files . . . It is results from advertising that keep this, the industry's first independent trade publication, growing . . . It is the continued interest and loyalty of finish readers that produce results from advertising and make it possible to steadily increase the editorial services.

THE ENAMELING INDUSTRY'S ONLY INDEPENDENT TRADE PUBLICATION—finish

Benjamin F. Fairless, president of U. S. Steel Corporation, has announced the election of David F. Austin as vice president, sales, United States Steel Corp. of Delaware. Mr. Austin was previously vice president in charge of sales, Carnegie-Illinois Steel Corporation.

Bob Evans with Chicago Vit

FINISHPOTO

According to recent information from Chicago Vitreous Enamel Product Co., Cicero, Illinois, R. D. (Bob) Evans has resigned his position at Newark Stove Company and joined the former company in the capacity of district sales manager. It is understood that Mr. Evans will be located in Ohio.

Before taking up his new position, Mr. Evans was general foreman on war production at Newark Stove, and in pre-war years was enamel plant superintendent. Prior to his association with the Newark company he was assistant superintendent of the enamel division at Westinghouse Electric Corp., Mansfield, Ohio. He was graduated in ceramic engineering from Ohio State University in 1931.

Industry and trade set for Chicago winter markets

With merchants from all parts of the country hungry for information on available merchandise, new products and details on post-war distribution plans, the Winter Markets at the American Furniture Mart and the Merchandise Mart in Chicago promise to be the most important ever held in the industry. This is the joint statement of Col. Lawrence H. Whiting, president of the American Furniture Mart and John C. Goodall, general manager of the Merchandise Mart. Dates for the markets have been officially set for January 7 to 19, the statement said.

Some producers will show their new lines in entirety, while others plan to bring them out gradually. The showing will be a pre-view of things to come, Mart officials said.

Pre-market activities in both centers are going into high gear, according to Mart officials.

Bob Foraker to Ingersoll

R. W. (Bob) Foraker has joined the porcelain enameling organization of Ingersoll Steel & Disc Div., Borg-Warner Corp., Chicago. Mr. Foraker is to be in charge of control operations. Before joining Ingersoll he was with Aluminum Company of America, La Grange, Illinois plant, in the metallurgical division. He is a ceramic graduate from the University of Illinois, and had further technical training and experience while employed in the laboratories of Chicago Vitreous Enamel Product Co. He is a nephew of Ralph Foraker.

Ben Longan to Bellevue Porcelain

B. F. (Ben) Longan has taken a position at Bellevue Porcelain Enameling Company, Detroit, Michigan. It is reported that he is to be in charge of enameling operations.

Mr. Longan was, for a number of years, on the service staff of Chicago Vitreous Enamel Product Co., and has held positions with other enameling plants.

A veteran of World War I, "Ben" was in the ground forces of the Army Air Force during the second World War.

Eagle-Picher expands

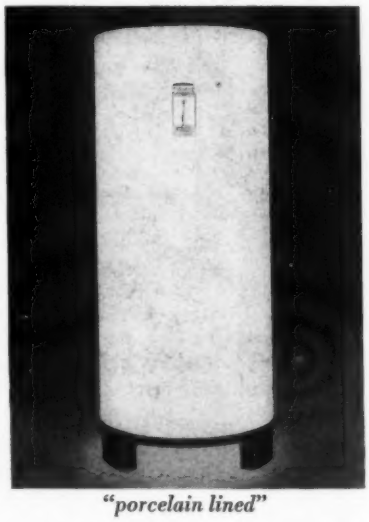
Announcement comes from J. M. Bowlby, president of The Eagle-Picher Company, of the acquisition of a substantial interest in the common shares in the Canadian firm of McArthur, Irwin, Ltd., as part of the company's postwar expansion program.

The Canadian firm produces white lead and colors in the Dominion, with its main plant in Montreal. It is planned to expand the company's manufacture and marketing of Litharge. During the past four years Eagle-Picher has acquired holdings of non-ferrous metals companies in Kansas City, Dallas, and Cleveland, and have recently opened mining properties in Arizona, Nevada and in Taxco, Mexico.

Foote Mineral office moves

Foote Mineral Company, Philadelphia, Pa., processers of metals, alloys, ores and chemicals, announces the removal of its entire offices to 12 West Chelten Avenue, Philadelphia 44, Pa.

Hotpoint to produce porcelain lined water heaters



"porcelain lined"

Porcelain lined automatic electric storage water heaters will come off the assembly lines of Edison General Electric (Hotpoint) Appliance Co., the industry's largest producer, in early January, 1946, Gregory L. Rees, manager, water heater sales division, advises *finish*.

The first of this deluxe quality heater production will be comprised of 30- and 40-gallon tank sizes, with

other larger sizes to go into production later, he said.

Hotpoint produced porcelain lined tanks before the war, and according to Rees, expect this item to be a sales leader in the postwar market. As with other Hotpoint electric water heaters, the porcelain models will sell at all trade levels at 1942 prices.

Stove convention and exhibit scheduled for December

The 13th annual convention and exhibit of the Institute of Cooking and Heating Appliance Manufacturers will be held at the Netherland Plaza Hotel, Cincinnati, on December 3, 4 and 5, according to Henry S. Minster, convention chairman and president of Roberts & Mander Stove Co.

Recent conventions have been concerned chiefly with the consideration of government controls covering the industry. Since both production and rationing controls on stoves have been lifted, the only remaining restrictive orders are maximum price regulation No. 64 and the reconversion pricing orders. It is planned to cover the general field of OPA price controls thoroughly in informal conferences between manufacturing members. Other problems to be covered are labor relations, wage rate structures, incentive plans and trends in distribution.

A great deal of the time scheduled for meetings will be devoted to round table discussions, according to Institute headquarters.

Weaver is featured speaker at Detroit meeting

R. A. Weaver, president of Ferro Enamel Corporation, presented the story of porcelain enamel to members of the Detroit Engineering Society and the Detroit Section of the American Ceramic Society at their combined meeting on September 25. About 500 people were in attendance at the Rackham Memorial Building.

The subject of Mr. Weaver's non-technical dissertation was "An Ancient Art Becomes a Modern Industry." For his listeners he traced the romantic background and early history of enameling, and outlined the uses and progress in the art of enameling from the time of the earliest Cloisonne and Champleve to its present everyday applications.

In speaking to the technical men he said, "We emphasize the importance of laboratory work in developing enamels, and scientific control of operations in our customers' plants." And further, "At the moment we have a great scarcity of technical men in our industry, caused of course by the loss of trained men during the war and by the growth of porcelain enameling. . . . We hope the universities will soon be filled with men interested in this industry. . . . I would like to make a plea for a more liberal education for engineering students. Engineers form the strong framework for our whole industrial system. They are providing more and more of our industry's leaders. As we see the results of the last tragic war, we can't but wonder what benefit it is to build up a great industrial system in a super mechanical world if we don't provide intelligent trained leadership to operate it properly and in the interest of all the people. . . . "

In referring to competitive materials Mr. Weaver said, "Seriously, we do not feel the light metals or plastics will greatly endanger our industry, as they cover a field which actually doesn't compete with us. We have low costs, extreme acid resistance, long life, color and ease of cleaning, which gives us a very strong hold on the domestic utility market and which is permitting us to enter other fields, even architectural, which opens up big markets for us."

Admittedly porcelain enamel is one of the least understood — or, in many cases, misunderstood—fine materials in daily use. It should be the policy of our industry's leaders to afford themselves of every opportunity to present a clear, non-technical picture of porcelain enamel, its background, its qualities and its uses before group meetings of all kinds. It may be an engineering society meeting, a Kiwanis luncheon, a Lions Club banquet, a woman's club meeting or a university home economics class. We need the help of all of our industry leaders in presenting the true story of porcelain enamel to as many listeners as possible. Regardless of the group, they will all be potential customers for some porcelain enameled product.

Westinghouse names welding specialist for San Francisco Bay area

Edgar W. Bartz, formerly of East Pittsburgh and Trafford, Pa., has been appointed welding specialist for the San Francisco Bay area by the Westinghouse Electric Corporation. Announcement of the appointment was made in San Francisco by Frank E. Bodine, San Francisco manager.

In his new post, Mr. Bartz will have charge of all Westinghouse activities having to do with the promotion and use of electric welding in the San Francisco Bay area.

Conlons to launch new appliance company

Conlon Bros. Manufacturing Co. has recently been organized to manufacture home appliances. The officers are Thomas B. Conlon, president, and Walter J. Conlon, vice president. Tom and Walter are the sons of the late Walter J. Conlon, Sr., founder of the Conlon Corporation. It is understood that the initial production of this new company will be washing machines. The plant will be located in Chicago and the Engineering Division is now in operation in the city.

Tom Conlon was formerly vice president and one time director of the Conlon Corporation. Walter was formerly resident engineer at Norge Division, Borg-Warner Corp., Muskegon, Michigan.

This news will be of interest to the enamel industry as porcelain enamel tubs are to be used on the washers.

E. Carl Sorby elected chairman "CP" group of A.G.A.E.M.

E. Carl Sorby, vice president of Geo. D. Roper Corporation, has been elected chairman of the "CP" Group

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Promoting architectural porcelain . . . .

(Continued from Page 27)

uals who make up the profession, and considering their present attitude toward porcelain enamel, it would appear that the following principles should be applied to all such advertising whether it be done on a cooperative basis or not:

a. Porcelain enamel will have a better chance of receiving favorable attention if it is advertised in those magazines published exclusively for the benefit of architects and their associates.

b. An analysis of magazine advertising addressed to architects would appear to establish the fact that it is designed (1) to furnish ideas and inspiration and (2) to inform them as to the general characteristics of the product.

c. No technical details should be included in magazine advertising. They cannot all be covered in one ad and it is impossible to foretell which particular detail would be of interest at the moment the ad is read. The place for these is in direct mail pieces and trade literature.

d. Advertising porcelain enamel to architects should strive to create the impression that the material is always up to specification and that it possesses the three basic requirements of good architecture; namely: beauty, durability and suitability. Emphasis should be placed on the assumption that, whereas yesterday architecture was mass accented by light and shadow, tomorrow it will be mass accented by color.

e. On the understandable supposition that every man is best sold from his own viewpoint, it would seem advisable to talk the architect's language and to appeal to the artistic side of the architect's nature in all advertising directed to him. Architects are trained to catch and hold impressions. Anything done inartistically is likely to offend their esthetic sense and thus give the ad less chance of being read.

f. The style of composition possessing the familiar, approved qualities of beauty, harmony, symmetry and balance, which architects have been trained to look for and appreciate, would serve to good purpose in advertising porcelain enamel.

g. Illustrations used in architectural advertising should be chosen from noteworthy examples of work, done by men high in the profession, in which porcelain enamel was used. Sketches, pen and ink drawings, renderings or photographs are all acceptable. Prize designs submitted in the competitions suggested as part of the sales promotion program would provide excellent illustrations.

h. All advertising, whether magazine or direct mail, should strive to convince architects that porcelain enamel is always up to specification. As has been brought out before, architects are loathe to experiment, to substitute guesswork for certainty. They cannot afford to take a chance.

Financing a Joint Program

Considering the end result which is equally desired by all, it should not be impossible to arrive at an acceptable formula for determining the amount of money each company would contribute to this common task of developing, promoting and advertising. Nor should there be any insurmountable difficulty in selecting some disinterested person, or agency, to receive the funds and to serve as counsellor and arbitrator in matters pertaining to their disbursement. There are numerous ways, of course, of deciding how much money should and could be allocated by individual enamel companies for this joint program, and while the way used by one company might be as satisfactory as that used by another, in the interest of time and fairness it is recommended that only one method be used by all. Once agreed upon, a single method will give greater satisfaction, and prove better in every respect, than many arrived at in different ways, and based on different factors. The entire amount to be spent each year on the program should not be in excess of the allowance based on the total anticipated postwar capacity of all contributing companies. This total will be determined largely by the level of sales each company, working separately, anticipates for the future and this, in turn, should be predicated upon an analysis of past sales and the share of the total potential market each company considers it can reasonably expect to obtain.

Companies may not care to divulge to competitors information concerning past sales or the business it expects to do after the war. However, inasmuch as figures concerning past and anticipated sales must be gathered together and studied in order to reach an equitable decision as to how much, proportionately, each company would contribute to the total program, it is equally obvious that some one person, or agency, will have to see them. In order, therefore, to make it possible for enameling companies to cooperate in these matters of common concern and, at the same time, retain a normal competitive relationship, it is suggested:

1. That architectural porcelain enamel, frit and steel companies agree to pool a suitable portion of their marketing dollars for the common purpose of increasing the respective business of each in the building construction field;

2. That a single method be used to determine the amount each company should contribute;

3. That all computations and results derived by the use of this formula be given to some one individual, or agency, selected by the group, whose integrity, experience and disinterestedness can be counted on implicitly.

4. That this individual, or agency, be provided with the formula for determining the sum each company should contribute;

5. That this individual, or agency, forward the results expressed in terms of dollars — not percentages — to the respective companies;

6. That a group meeting be held to decide (a) to appropriate the full amount determined by the formula or (b) to state in terms of percentages—not dollars — how much less than this sum any company feels it can afford to allocate for the purpose.

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of Gas Range Manufacturers of the Association of Gas Appliance & Equipment Manufacturers, H. Leigh Whitelaw, managing director of the Association, announced. A. B. Ritzenthaler, vice president of The Tappan Stove Company, was elected vice-chairman of the "CP" Group.

Elected to the "CP" executive committee were: Lloyd C. Ginn, American Stove Co.; Henry Honer, Western Stove Co.; R. S. Agee, Roberts & Mander Stove Co.; John C. Pankow, Detroit-Michigan Stove Co.; John E. Bogan, Cribben & Sexton Co.; H. C. Erhard, Standard Gas Equipment Corp.; R. B. Hurt, Hardwick Stove Co.; and D. C. Ferguson, Clare Bros. & Co., Ltd.

Finish regrets to announce the recent death of Don Smith, Porcelain Steels, Cleveland, Ohio. Mr. Smith passed away in a New York City hotel late in September as a result of a heart attack.

Roy Beck with Pressed Steel Car Company to build enameling plant

It was reported to *finish* that Roy Beck, formerly with Westinghouse Electric Corp., Mansfield, Ohio, and before that with the enameling division of Tappan Stove Company, Mansfield, joined the organization of Pressed Steel Car Co., Chicago, effective October 1. Mr. Beck is to be superintendent of finishing for the company.

It is further learned that Pressed Steel Car will build a porcelain enameling plant for finishing in connection with their projected products.

Gibson's Belding, Michigan plant to build ranges

It is reported that the production of Gibson electric ranges has been moved to the company's plant in Belding, Michigan. The report, credited to Chas. J. Gibson, company president, further stated that a greater number of ranges are now being produced than pre-war.

The company's Greenville plant will now be devoted solely to the manufacture of refrigerators and home freezers. It is expected that the recent additions to the Greenville plant will permit doubling refrigerator production.

Bates retires from Bureau of Standards

P. H. Bates, chief of the Division of Clay and Silicate Products, National Bureau of Standards, and a member of the Bureau's staff since 1910, exercised his optional retirement privilege on September 15.

Mr. Bates was educated at the University of Pennsylvania. Choosing chemistry as his profession, he had experience in a number of laboratories prior to his connection with the Bureau. He was elected president of the American Society for Testing Materials in 1944. He is a fellow in the American Ceramic Society, and author and co-author of several Bureau papers.

One important wartime contribu-

to Page 54 →

The Pump that STANDS UP ON SLIP

Nearly a Million Gallons with No Repairs Whatever

When a pump handles 34,850 gallons per week of 80-mesh pottery slip—and keeps on handling this highly abrasive material under 40 lbs. pressure for six months, without repairs of any kind—it certainly *stands up on slip.* It's the kind of pump you *want*—and the kind you will *have*—when you know about the amazing R & M Moyno.

The Moyno delivers constant pressure *without pulsation* to improve your product by eliminating segregation, and it cuts filter pressing-time considerably. But, best of all, the Moyno gives long, trouble-free *service* because of its unique operating principle.

NO OTHER PUMP LIKE THIS

Instead of pistons, valves, high velocities, or complicated mechanisms, the Moyno utilizes a *simple helical rotor* within a fixed stator to create positive flow with a very *minimum* of agitation. Rotor and stator work together to form continuous, ever-changing seal lines, and direction of rotation tends to sweep particles away from lines of contact. No portion of the housing is used as sealing surface. Replacing just a few accessible parts restores original efficiency.

New Book Yours Free!

Learn why the R & M Moyno is fast becoming the recognized "standard" for ceramics service. Send for our new book, "A Turn for the Better." Let the R & M Moyno help you cut operating and maintenance costs. Thousands of satisfied users. Branch offices and distributors from coast to coast.

ROBBINS & MYERS • INC. MOYNO PUMP DIVISION • SPRINGFIELD, OHIO
In Canada: Robbins & Myers Co. of Canada, Ltd., Brantford, Ont.

MOTORS • HOISTS • CRANES • MACHINE DRIVES • FANS • MOYNO PUMPS • FOUNDED 1878

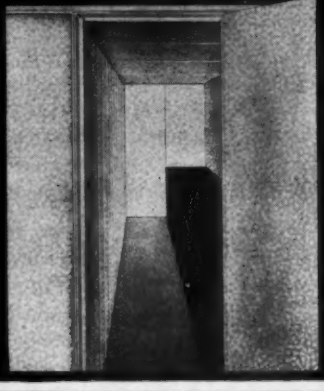
A MASTERPIECE

In the water wash chamber of for Porcelain Enamel

Angle view of the new DeVilbiss Spray Booth showing (right to left) the spraying section, doors to collection and service compartments and water wash chamber.

Left—View through doorway to collection compartment ahead of distributing plates.

Right—Entranceway to service section in front of water wash chamber with water tank at right.



OF ENGINEERING

the New DeVilbiss Spray Booth and Ceramic Finishing

Greater Simplicity! Higher Efficiency! No Maintenance!

This is the most simple, efficient and economical water wash chamber ever developed.

It has only *one moving part*—the blower—which does all the work. There are *No Nozzles, No Pumps, No Piping* to wear out and to require repairs and replacement. There are *No Eliminator Packs* to be kept clean. The baffles are *self-cleaning*—to insure a constant static pressure.

This new water wash chamber is designed to operate at one static pressure for all volumes—controlled by simply changing the water height. And all areas of the chamber are readily accessible through full length doors, front and rear.

By eliminating all parts subjected to severe abrasive wear, DeVilbiss engineers have developed a water wash chamber that requires *No Maintenance.* Its many new design and operating improvements assure a *continuous efficiency that has never before been equaled.*

There's much more to this new DeVilbiss Spray Booth development that gives you just what you need for greater economy and more efficient production. So, before you select any new finishing equipment get all the details about this new DeVilbiss Spray Booth. Call the DeVilbiss representative or write the factory direct.

THE DEVILBISS COMPANY • TOLEDO 1, OHIO
Canadian Plant: Windsor, Ontario

DE VILBISS
Spray Systems

SPRAY EQUIPMENT • EXHAUST SYSTEMS • AIR COMPRESSORS • HOSE & CONNECTIONS

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(In order to make it equitable, deductions should be made horizontally throughout the entire group. That is, if one company has decided it must reduce its contribution 10% while another figures a 15% reduction is necessary, the 15% reduction should be applied to the contributions of all companies in the group. Thus the total contribution for the entire program would be 15% less than the figure originally arrived at by means of the formula);

7. That all contributing companies agree upon a method and guarantee of payment for the program and set up whatever restrictions and inducements are considered advisable with respect to non-contributing companies;

8. That the contributing companies approve a joint marketing program to come within the limits of the total yearly appropriation;

9. That the group appoint a committee composed of members of contributing companies to review, but not to direct, the program with instructions as to the date it shall get under way.

A workable system for developing new products

(Continued from Page 21)

A progress chart is posted in the Chairman's office. It is very valuable for reference to any interested party. For an example, if the Works Manager, Sales or Production Departments want to determine the status of any new or revised product, they simply walk into the office and glance at this chart posted on the wall. It tells them at a glance the complete story without asking any questions such as: how many purchased or made in factory parts are released for samples, how many rejected, etc.? This chart is used as the basis of discussion of any questionable parts at the Verification meeting.

Assembly of verification samples

All reports on bought outside material and fabricated parts are sent to the Quality Control Division Supervisor in charge of the assembly. As the parts are checked, they are sent to the assembly floor where they are assembled under regular production conditions. This allows the interested parties to become familiar with the assembly and acts as a training period. A record is kept of any discrepancies or troubles encountered.

Will tomorrow's air markers be porcelain enamel

(Continued from Page 17)

facture, and for ease in installation.

One thing that is pointed out repeatedly is that while the letters and numerals should be of standard color — chrome* yellow with black background or black border — an entirely different conception of quality may be employed in the enamel shop than that expected for the usual enameled product. It must be remembered that these markers will be "inspected" from about 2,000 or 3,000 feet instead of 2 or 3 feet. While the bars could be let down for economy reasons in manufacture, it is obvious that complete coverage is required to prevent corrosion.

If we may assume that eventually at least one marker with an area of approximately 1000 square feet will be installed in each incorporated town in the United States, the total square footage to be used for this purpose reaches an astronomical figure. A great many of these markers are going in, and will continue to go in, as painted markers or of other materials. If porcelain enamel can get only a small share of the total, that share still represents a worth while market for our industry.

** While "chrome yellow" is the term that has been used to describe the standard color, this should not be taken to indicate chemical composition of the color used for porcelain enamel. Standard color samples should be obtained for matching.*

The red color used in the WASHINGTON air marker on page 16 is for illustrative purposes only, and bears no relationship to the standard color specified by C.A.A.

INDUSTRY NEWS

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tion of the Division was the development of a new ceramic coating for the protection of metal parts against corrosion at high temperatures.

Parsons new Division chief

Douglas E. Parsons has been named chief of the Division of Clay and Silicate Products to succeed Mr. Bates. He has been in charge of the Section on Masonry Construction, and assistant chief of the Division since early in 1944.

He received his A.B. and C.E. degrees from Cornell College, Mount Vernon, Iowa. He joined the staff of the Bureau of Standards in 1923. He is a member of the American Society of Civil Engineers, the American Society for Testing Materials, the American Association for the Advancement of Science and other organizations.

Pittsburgh Section ACS fall meeting

The American Ceramic Society reports that the largest and most successful meeting in the history of the Pittsburgh Section was held at Mellon Institute on Friday, October 12, with 175 attending the Technical Session.

At the Joint Session Dr. H. E. Simpson, Section chairman, introduced Dwight G. Bennett, research professor, Department of Ceramic Engineering, University of Illinois, who spoke on "Some Special Wartime Investigations of Ceramics." In this paper Mr. Bennett described the work conducted in connection with the Army Air Forces leading to the development of enamel-type metal protective coatings featuring low infra-

red emissivity at high temperature.

A second phase of the paper described the development of ceramic bodies capable of satisfactory resistance to temperature changes of as much as 2000° in 30 seconds.

Following the Joint Session the Glass Division, with Harold Simpson as chairman, and the Refractories and Whitewares Divisions, with John Jordan as acting chairman, held separate meetings.

Plankenhorn to U. of I.

W. J. (Bill) Plankenhorn has taken a position at the University of Illinois, as special research associate, where he will be in technical development work.

Mr. Plankenhorn was formerly in charge of the enameling plant at Federal Electric Company, a company with which he has been associated for a number of years. He was also at Ingersoll Steel Disc Div., Borg-Warner Corp., for several years as ceramic engineer.

New engineering manager at American Foundry Equipment

Mortin I. Dorfan has been appointed manager of the dust and fume engineering division of American Foundry Equipment Co., Mishawaka, Indiana. In this position he will supervise and coordinate the company's expanded dust control research, engineering and sales activities.

A mechanical engineering graduate from Columbia University, Mr. Dorfan spent several years abroad in post-graduate study. Since then he

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New and larger Pacific Coast Region offices of Detrex Corporation, Detroit, Michigan, have been established at 318 West Ninth Street, Los Angeles 15, California, under the supervision of Mr. S. B. Crooks, Pacific Region Manager. This office, according to a recent report, functions as sales and service headquarters for the Pacific Coast and Rocky Mountain states.

AGA appointment

Mahlon A. Combs has been appointed assistant secretary of the Industrial and Commercial Gas Section, American Gas Association, according to an announcement by J. French Robinson, president of the Association. The position to which Mr. Combs has been appointed is a newly created post.

Lower your rejects by making your enamels with

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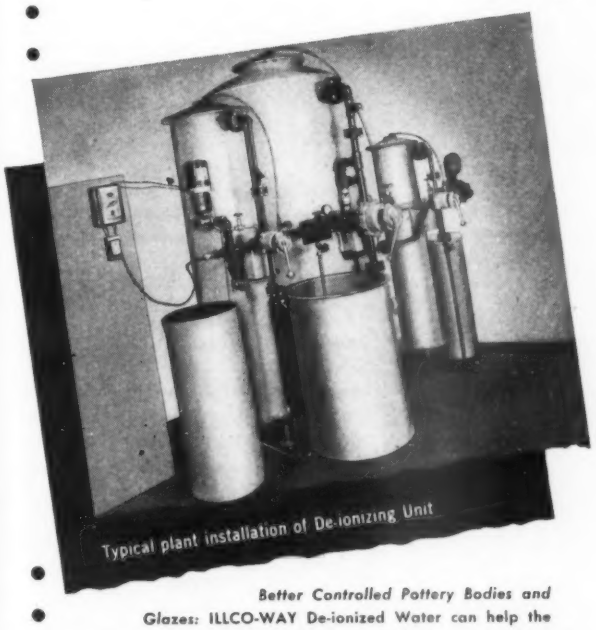

Typical plant installation of De-ionizing Unit

Reduction in rejects and elimination of copper heading have been obtained in leading ceramic plants when De-ionized Water was used in making the enamel. The varying acidic and basic reactions of natural waters affects the proper flocculation characteristics of frit and clay. Adjusting the enamel to make it function properly is costly as it requires materials and takes time.

You can assure yourself of a reliable water for enamel, by installing an ILLCO-WAY De-ionizing Unit. It will produce all the water your plant requires for capacity operation at a cost from 1% to 10% of that of distilled water. No fuel required, no cooling water. Maintenance is simple—no periodic dismantling for cleaning. Write for literature today!

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